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OBSTETRICAL TRANSACTIONS.

VOL. XLI.

TRANSACTIONS

OF THE

OBSTETRICAL SOCIETY

OF

LONDON.

VOL. XLI.

FOR THE YEAR 1899.

WITH A LIST OF OFFICERS, FELLOWS, ETC.

ST. JAMES'S HOSPITAL MEDICAL SCHOOL
—62—
CHANDOS STREET
STRAND, LONDON

EDITED BY

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AND

PERCY BOULTON, M.D.

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1899 OLDHAM, HENRY, M.D., F.R.C.P., Consulting Obstetric Physician to Guy's Hospital; Cannington, Boscombe, Bournemouth. *Vice-Pres.* 1859. *Council,* 1860, 1865-6. *Treas.* 1861-2. *Pres.* 1863-4. *Trans.* 1. *Trustee.*

O.F.* PRIESTLEY, SIR WILLIAM O., M.D., LL.D., F.R.C.P., Consulting Obstetric Physician to King's College Hospital; 17, Hertford street, Mayfair, W. *Council,* 1859-61, 1865-6. *Vice-Pres.* 1867-9. *Pres.* 1875-6. *Trans.* 6.

1892 TURNER, SIR WILLIAM, F.R.S., Professor of Anatomy, University of Edinburgh; 6, Eton terrace, Edinburgh.

FOREIGN SUBJECTS.

Elected

1899 Budin, P., M.D., Professor, 4, Avenue Hoche, Paris. *Trans.* 1.

1900 Chadwick, James R., M.A., M.D., Physician for Diseases of Women, Boston City Hospital; Clarendon street, Boston, Massachusetts, U.S.

1895 Gusserow, Professor, Berlin.

1866 Lazarewitch, J., M.D., Professor Emeritus and Physician to the Maximilian Hospital; Spaskaja, 2, St. Petersburg. *Trans.* 3.

1899 Martin, A. E., M.D., Professor of Obstetrics and Gynæcology, Greifswald. *Trans.* 1.

1899 Olshausen, R. M., Professor, N. Artilleriestrasse 19, Berlin.

1899 Pinard, A. Professor, 10, Rue Cambacérés, Paris.

1872 Thomas, T. Gaillard, M.D., Professor of Obstetrics in the College of Physicians and Surgeons; 600, Madison avenue, New York.

1862 Virchow, Rudolf, M.D., Professor of Pathological Anatomy in the University of Berlin.

1895 von Winckel, Professor, Sonnenstrasse 16a, Munich.

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1900.

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1891 Adams, Charles Edmund, 227, Gipsy road, West Norwood, S.E.

1884*†Adams, Thomas Rutherford, M.D., 119, North End, West Croydon. *Council*, 1894-7.

1890 Addinsell, Augustus W., M.B., C.M.Edin., M.R.C.P., Pathologist to the Chelsea Hospital for Women, 7, Upper Brook street, W. *Council*, 1898-1900. *Trans.* 1.

1895† Albrecht, John Adolph, L.R.C.P. & S.Edin., 343, The Cliff, Lower Broughton road, Manchester.

1893† Alcock, Richard, M.B., Burlington crescent, Goole.

1883*†Allan, Robert John, L.R.C.P.Ed., The Bungalow, Dulwich hill, Sydney, New South Wales.

1890† Allan, Thomas S., L.R.C.P. & S.Ed.

1873† Allen, Henry Marcus, F.R.C.P.Ed., 17, Palmeira square, Hove, Brighton.

1887 Ambrose, Robert, B.A., L.R.C.P. & S.Ed., 1, Mount place, Whitechapel road, E.

1875* Anderson, John Ford, M.D., C.M., 41, Belsize park, N.W. *Council*, 1882, 1898-9.

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1899 Andrews, E. Collingwood, M.A., M.D.Cantab., 110, Finchley road, South Hampstead, N.W.

1899 Andrews, Henry Russell, M.D., London Hospital, E.

1859 Andrews, James, M.D., 1, Prince Arthur road, Hampstead, N.W. *Council*, 1881.

1870*†Appleton, Robert Carlisle, The Bar House, Beverley.

1884 Appleton, Thomas A., 46, Britannia road, Fulham, S.W.

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1871 Argles, Frank, L.R.C.P.Ed., Hermon Lodge, Wanstead, Essex, E. *Council*, 1886-7.

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1886 Ashe, William Percy, L.R.C.P.Lond., 17, Alexander square, S.W.

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1887 Bailey, Henry Frederick, The Hollies, Lee terrace, Lee, S.E.

1897† Bain, William, M.D.Durh., Straythorpe, York place, Harrogate.

1880† Balls-Headley, Walter, M.D., F.R.C.P., Lecturer on Obstetrics and Diseases of Women, University of Melbourne, 4, Collins street east, Melbourne, Victoria.

1869* Bantock, George Granville, M.D., Consulting Surgeon to the Samaritan Free Hospital; 12, Granville place, Portman square, W. *Council*, 1874-6. *Trans.* 2.

1886*†Barbour, A. H. Freeland, M.D.Edin., Lecturer on Midwifery and Diseases of Women, Edinburgh Medical School, 4, Charlotte square, Edinburgh. *Council*, 1898-1900.

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1893 Blacker, George Francis, M.D., B.S.Lond., F.R.C.S., Assistant Obstetric Physician to University College Hospital; 11, Wimpole street, W. *Council*, 1898-1900. *Board Exam. Midwives*, 1900. *Trans.* 2.

1861*†Blake, Thomas William, M.D.St.And., Hurstbourne, Bournemouth, Hants.

1872*†Bland, George, Consulting Surgeon to the Macclesfield Infirmary; Pottergate Lodge, Lincoln.

1888* Bland-Sutton, John, F.R.C.S., Surgeon to the Middlesex Hospital; 48, Queen Anne street, Cavendish square, W. *Council*, 1894-5. *Trans.* 5.

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1899† Bowring, Walter Andrew, F.R.C.S.Eng., 38, Montpelier crescent, Brighton.

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1866 Brodie, George B., M.D., Consulting Physician-Accoucheur to Queen Charlotte's Lying-in Hospital; 3, Chesterfield street, Mayfair, W. *Council*, 1873-5. *Vice-Pres.*, 1889.

1892 Brodie, William Haig, M.D., C.M.Edin., F.R.C.S.Eng. Battle, Sussex.

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1889† Brown, Alfred, M.A., M.D., C.M. Aber., Sandycroft, Higher Broughton, Manchester.

1868 Brown, Andrew, M.D. St. And., 27, Lancaster road, Belsize park, N.W. *Council*, 1893-4. *Trans.* 1.

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1865* Brown, D. Dyce, M.D., 29, Seymour street, Portman square, W.

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1877† Burd, Edward, M.D., M.C., Senior Physician to the Salop Infirmary; Newport House, Shrewsbury. *Council*, 1886-7. *Hon. Loc. Sec.*

1894 Burt, Robert Francis, M.B., C.M.Edin., 124, Stroud Green road, N.

1888 Burton, Herbert Campbell, L.R.C.P. Lond., Lee Park Lodge, Blackheath, S.E.

1878 Butler-Smythe, Albert Charles, F.R.C.P. & S.Ed., Surgeon to Out-patients, Samaritan Free Hospital; 76, Brook street, Grosvenor square, W. *Council*, 1889-91.

1887* Buxton, Dudley W., M.D. Lond., 82, Mortimer street, Cavendish square, W.

1886† Byers, John W., M.A., M.D., M.A.O. (Hon. Causâ), Professor of Midwifery and Diseases of Women and Children at Queen's College, and Physician for Diseases of Women to the Royal Hospital, Belfast; Dreenagh House, Lower crescent, Belfast. *Vice-Pres.* 1899-1900.

1891† Calthrop, Lionel C. Everard, M.B. Durh., Gosberton House, 76, Jesmond road, Newcastle-on-Tyne.

1887† Cameron, James Chalmers, M.D., Professor of Midwifery and Diseases of Infancy, McGill University; 941, Dorchester street, Montreal.

1887† Cameron, Murdoch, M.D.Glas., Regius Professor of Midwifery in the University of Glasgow, 7, Newton terrace, Charing Cross, Glasgow.

1894† Campbell, John, M.A., M.D.Dubl., F.R.C.S., 21, Great Victoria street, Belfast.

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1887† Case, William, Denmark house, Caister-on-Sea, Norfolk.

1863† Cayzer, Thomas, Surgeon-Lieutenant-Colonel, Mayfield, 9, Aigburth road, Liverpool.

1875† Chaffers, Edward, F.R.C.S., Broomfield, Keighley, Yorkshire.

1876* Champneys, Francis Henry, M.A., M.D. Oxon., F.R.C.P., Physician-Accoucheur to, and Lecturer on Midwifery at, St. Bartholomew's Hospital; 42, Upper Brook street, W. *Council*, 1880-1, 1900. *Hon. Lib.* 1882-3. *Hon. Sec.* 1884-7. *Vice-Pres.* 1888-90. *Board Exam. Midwives*, 1883, 1888-90; *Chairman*, 1891-5. *Editor*, 1888-93. *Pres.* 1895-6. *Trans.* 16.

1867*†Charles, T. Edmondston, M.D., F.R.C.P., 72, Via di San Niccolo da Tolentino, Rome. *Council*, 1882-4.

1874*†Charlesworth, James, M.D., Physician to the North Staffordshire Infirmary; 25, Birch terrace, Hanley, Staffordshire.

1890† Childe, Charles Plumley, B.A., F.R.C.S., Cranleigh, Kent road, Southsea.

1897† Chinery, Edward Fluder, F.R.C.S.Edin., Monmouth House, Lymington, Hants.

1863*†Chisholm, Edwin, M.D., Abergeldie, Ashfield, near Sydney, New South Wales. [Per Messrs. Turner and Henderson, care of Messrs. W. Dawson, 121, Cannon street, E.C.]

1896 Chittenden, T. Hillier, M.D.Durh., M.R.C.P.Lond., 32, Ovington square, S.W.

Elected

1883 Clapham, Edward, M.D., 29, Lingfield road, Wimbledon. *Council*, 1892-4.

1859 Claremont, Claude Clarke, Millbrook House, 1, Hampstead road, N.W. *Council*, 1896.

1897 Clark, William Gladstone, M.A.Cantab., 1, North road, Surbiton, Surrey.

1893 Clarke, W. Bruce, F.R.C.S., Assistant Surgeon to St. Bartholomew's Hospital, 51, Harley street, W.

1899 Clayton, Charles Hollingsworth, L.R.C.P., 10, College terrace, Belsize park, N.W.

1889 Clemow, Arthur Henry Weiss, M.D., C.M. Edin., 101, Earl's Court road, Kensington, W.

1865*†Coates, Charles, M.D., Physician to the Bath General and Royal United Hospitals; 10, Circus, Bath.

1882† Coates, Frederick William, M.D., Auckland, New Zealand. *Council*, 1891-3.

1875 Coffin, Richard Jas. Maitland, F.R.C.P. Ed., 3, Westgate terrace, Redcliffe square, S.W.

1875*†Cole, Richard Beverly, M.D. Jefferson Coll. Philad., 218, Post street, San Francisco, California, U.S.

1895† Coles, Alfred Charles, M.D., C.M.Edin., Bradwardine, Branksome terrace, Bournemouth.

1897† Coles, Richard A., M.B. & C.M.Aber., Barham, near Canterbury.

1895 Collier, Samuel Ruddell, M.D., 13, Hartfield road, Wimbledon.

1888† Collins, Edward Tenison, 12, Windsor place, Cardiff.

1866† Coombs, James, M.D., Bedford.

1888 Cooper, Peter, L.R.C.P.Lond., Stainton Lodge, 35, Shooter's Hill road, Blackheath, S.E.

1890 Copeland, William Henry Laurence, M.B.Cantab., 4, Bolton gardens, South Kensington, S.W.

Elected

1875*†Cordes, Aug., M.D., M.R.C.P., Consulting Accoucheur to the "Miséricorde;" Privat Docent for Midwifery at the University of Geneva; 12, Rue Bellot, Geneva. *Trans.* 1.

1883 Corner, Cursham, 113, Mile End road, E.

1877 Crawford, James, M.D. Durh., Grosvenor Mansions, 80, Victoria street, S.W.

1896† Creasy, Rolf, L.R.C.P. Lond., Windlesham, Surrey.

1876† Crew, John, Manor House, Higham Ferrers, Northamptonshire.

1893 Cripps, William Harrison, F.R.C.S., Surgeon to St. Bartholomew's Hospital; 2, Stratford place, W. *Trans.* 1.

1889† Croft, Edward Octavius, M.D.Durh., Hon. Surgeon to the Hospital for Women and Children; Hon. Demonstrator of Obstetrics to the Yorkshire College, Leeds; 8, Clarendon road, Leeds.

1881*†Cronk, Herbert George, M.B. Cantab., Repton, near Burton-on-Trent.

1893 Crosby, Herbert Thomas, M.A., M.B., B.C.Cantab., 19, Gordon square, W.C.

1895 Cross, Ernest W., L.R.C.P.Lond., The Limes, Wallwood Park, Leytonstone.

1886*†Cross, William Joseph, M.B., Horsham, Victoria, Australia.

1898† Cullen, Thomas, M.D.Toronto, Johns Hopkins Hospital, Baltimore, U S.A.

1875* Cullingworth, Charles James, M.D., D.C.L., F.R.C.P., Obstetric Physician to, and Lecturer on Diseases of Women at, St. Thomas's Hospital; 14, Manchester square, W. *Council*, 1883-5, 1891-3. *Vice-Pres.* 1886-8. *Board Exam. Midwives*, 1889-91. *Chairman*, 1895-6. *Pres.* 1897-8. *Trans.* 13.

1889*†Cursetji, Jehángir J., M.D. Brux., 94, Chundunwádi, Bombay.

1894 Cutler, Lennard, L.R.C.P.Lond., 1, Kensington Gate, Kensington, W. *Trans.* 1.

Elected

1885 Dakin, William Radford, M.D., B.S., F.R.C.P., Obstetric Physician to, and Lecturer on Midwifery at, St. George's Hospital; 18, Grosvenor street, W. *Council*, 1889-91. *Hon. Lib.* 1892-3. *Hon. Sec.* 1894-7. *Vice-Pres.* 1898-1900. *Trans.* 3.

1868 Daly, Frederick Henry, M.D., 185, Amhurst road, Hackney Downs, N.E. *Council*, 1877-9. *Vice-Pres.* 1883-5. *Trans.* 2.

1893 Dauber, John Henry, M.A. Oxon., M.B., B.Ch., Physician to the Hospital for Women, Soho square; 29, Charles street, Berkeley square, W.

1892† Davis, Robert, Darrickwood, Orpington, Kent.

1877 Davson, Smith Houston, M.D., Campden villa, 203, Maida vale, W. *Council*, 1889-91.

1891 Dawson, Ernest, L.R.C.P. Lond., The Broadway, Leyton, E.

1889 Des Vœux, Harold A., M.D.Brux., 8, James street, Buckingham gate, S.W. *Council*, 1896-8.

1894 Dickinson, Thomas Vincent, M.D. Lond., 33, Sloane street, S.W. *Council*, 1900.

1894 Dickson, John William, B.A., M.B., B.C. Cantab., 42, Hertford street, Mayfair, W.

1895 Dodgson, George Stanley, B.A., M.B., B.C.Cantab., Southleigh, Headingley, Leeds.

1886† Donald, Archibald, M.D. Edin., M.R.C.P., Obstetric Physician to the Royal Infirmary, Manchester; Honorary Surgeon to St. Mary's Hospital for Women, Manchester; Platt Abbey, Rusholme, Manchester. *Council*, 1893-5. *Trans.* 2.

1879* Doran, Alban H. G., F.R.C.S., Surgeon to the Samaritan Free Hospital; 9, Granville place, Portman square, W. *Council*, 1883-5. *Hon. Lib.* 1886-7. *Hon. Sec.* 1888-91. *Vice-Pres.* 1892-4. *Pres.* 1899-1900. *Trans.* 19.

1890† Douty, Edward Henry, M.A., M.B., B.C.Cantab., Davos Platz, Switzerland.

Elected

1887 Dovaston, Milward Edmund, Hova House, Hove, Brighton.

1899† Down, Elgar, L.R.C.P.Lond., 14, Mount Edgcumbe terrace, Stoke, Devonport.

1896 Downes, J. Lockhart, M.B., C.M. Edin., 27, Romford road, E.

1884† Doyle, E. A. Gaynes, L.R.C.P., Colonial Hospital, Port of Spain, Trinidad.

1871† Drake-Brockman, Edward Forster, F.R.C.S., L.R.C.P. Lond., Brigade-Surgeon; c/o Messrs. Richardson and Co., East India Army Agency, 25, Suffolk street, Pall Mall, S.W.

1894† Drew, Henry William, F.R.C.S., Eastgate, East Croydon.

1883 Duncan, Alexander George, M.B., 25, Amhurst park, Stamford hill, N.

1882 Duncan, William, M.D., Obstetric Physician to, and Lecturer on Obstetric Medicine at, the Middlesex Hospital; 6, Harley street, W. *Council*, 1885-6, 1888-9. *Hon. Lib.* 1890-1. *Hon. Sec.* 1892-5. *Vice-Pres.* 1896-9. *Trans.* 2.

1871* Eastes, George, M.B., F.R.C.S., 35, Gloucester terrace, Hyde park, W. *Council*, 1878-80.

1896 Easton, Frank Edward, L.R.C.P. Lond., 12, Devonport street, Hyde park, W.

1883† Eccles, F. Richard, M.D., Professor of Gynæcology, Western University; 1, Ellwood place, Queen's avenue, London, Ontario, Canada.

1893 Eden, Thomas Watts, M.D., M.R.C.P. Edin., 49, Queen Anne street, W. *Council*, 1897-9. *Trans.* 4.

1890 Ehrmann, Albert, L.R.C.P.Lond., 6, The Terrace, Camden square, N.W.

Elected

1894 Ellis, Robert Kingdon, M.B., B.Ch.Oxon., Lowdham, Notts.

1873*†Engelmann, George Julius, A.M., M.D., 336, Beacon street, Boston, Mass., U.S.A.

1898† Evans, David J., M.D.McGill, 939, Dorchester street, Montreal.

1897 Evans, Evan Laming, M.B., B.C.Cantab., F.R.C.S., 116, Piccadilly, W.

1892† Evans, John Morgan, L.R.C.P.Lond., Llandrindod Wells, Radnorshire.

1875† Ewart, John Henry, Eastney, Devonshire place, Eastbourne.

1899 Fairbairn, John Shields, M.B., B.Ch.Oxon., 93, Wimpole street, W.

1894 Fairweather, David, M.A., M.B., C.M.Edin., 2, Nightingale road, Wood Green, N.

1876† Farncombe, Richard, 183, Belgrave road, Balsall heath, Birmingham.

1869* Farquhar, William, M.D., Deputy Surgeon-General, 40, Westbourne gardens, Bayswater, W.

1882† Farrar, Joseph, M.D., Gainsborough. *Trans.* 1.

1894† Fazan, Charles Herbert, L.R.C.P. Lond., Belmont, Wadhurst, Sussex.

1868* Fegan, Richard, M.D., Westcombe park, Blackheath, S.E.

1886 Fennell, David, L.K.Q.C.P.I., "Castlebar," 116, Palace road, Tulse hill, S.W.

1883 Fenton, Hugh, M.D., Physician, Chelsea Hospital for Women; 27, George street, Hanover square, W.

1893 Ferguson, George Gunnis, M.B., C.M.Glas., Fern Combe, New West End, Finchley road, Hampstead, N.W.

Elected

1893† Finley, Harry, M.D.Lond., West Malvern, Worcestershire.

1877*†Fonmartin, Henry de, M.D., 26, Newberry terrace, Lower Bullar street, Nichols Town, Southampton.

1897† Fothergill, W. E., M.B., C.M.Edin., 200, Oxford road, Manchester.

1884 Fouracre, Robert Perriman, 58, Tollington park, N.

1886† Fowler, Charles Owen, M.D., Cotford House, Thornton heath.

1898 Frampton, Trevethan, M.R.C.S., L.R.C.P., 168, Gloucester terrace, Hyde park, W.

1875*†Fraser, Angus, M.D., Physician and Lecturer on Clinical Medicine to the Aberdeen Royal Infirmary; 232, Union street, Aberdeen. *Council*, 1897-1900.

1888† Fraser, James Alexander, L.R.C.P. Lond., Western Lodge, Romford.

1883 Fuller, Henry Roxburgh, M.D. Cantab., 45, Curzon street, Mayfair, W. *Council*, 1893. *Trans.* 1.

1886† Furner, Willoughby, F.R.C.S., 13, Brunswick square, Brighton. *Council*, 1894-6. *Hon. Loc. Sec.*

1874* Galabin, Alfred Lewis, M.A., M.D., F.R.C.P., Obstetric Physician to, and Lecturer on Midwifery at, Guy's Hospital; 49, Wimpole street, Cavendish square, W. *Council*, 1876-8. *Hon. Lib.* 1879. *Hon. Sec.* 1880-3. *Vice-Pres.* 1884. *Treas.* 1885-8. *Pres.* 1889-90. *Trans.* 12.

1888 Galloway, Arthur Wilton, L.R.C.P. Lond., 79, New North road, N.

1863* Galton, John H., M.D., Chunam, Sylvan road, Upper Norwood, S.E. *Council*, 1874-6, 1891-2. *Vice-Pres.* 1895-8.

1881 Gandy, William, Hill Top, Central hill, Norwood, S.E. *Council*, 1897-8.

Elected

1886*†Garde, Henry Croker, F.R.C.S. Edin., Maryborough, Queensland.

1887 Gardiner, Bruce H. J., L.R.C.P. Ed., Gloucester House, Barry road, East Dulwich, S.E.

1894 Gardner, H. Bellamy, M.R.C.S., L.R.C.P.Lond., 52, Beaumont street, Portland place, W.

1879† Gardner, John Twiname, Watersmeet, Ilfracombe.

1872*†Gardner, William, M.A., M.D., Professor of Gynæcology McGill University; Gynæcologist to the Royal Victoria Hospital; 109, Union avenue, Montreal, Canada.

1876† Garner, John, 21, Easy row, Birmingham.

1891† Garrett, Arthur Edward, L.R.C.S. & L.M.Ed., Whitacre Lodge, Leamington.

1873*†Garton, William, M.D., F.R.C.S., Inglewood, Aughton, near Ormskirk.

1889* Gell, Henry Willingham, M.A., M.B.Oxon., 36, Hyde park square, W.

1898*†Gemmell, John Edward, M.B., C.M.Edin., Hon. Surgeon to the Hospital for Women, Liverpool; 12, Rodney street, Liverpool.

1859* Gervis, Henry, M.D., F.R.C.P., Consulting Obstetric Physician to St. Thomas's Hospital; The Towers, Hillingdon, Uxbridge. *Council*, 1864-6, 1889-91, 1893. *Hon. Sec.* 1867-70. *Vice-Pres.* 1871-3. *Treas.* 1878-81. *Pres.* 1883-4. *Trans.* 8.

1866* Gervis, Frederick Heudebourck, 1, Fellows road, Haverstock hill, N.W. *Council*, 1877-9. *Vice-Pres.* 1892. *Trans.* 1.

1899† Gervis, Henry, M.A., M.B., B.C.Cantab., 74, Dyke road, Brighton.

1883* Gibbons, Robert Alexander, M.D., Physician to the Grosvenor Hospital for Women and Children; 29, Cadogan place, S.W. *Council*, 1889-90. *Trans.* 1.

1894 Gibson, Henry Wilkes, L.R.C.P. Lond., 6, College terrace, Fitzjohn's avenue, N.W.

Elected

1874† Gibson, James Edward, Hillside, West Cowes, Isle of Wight.

1892 Giles, Arthur Edward, M.D. Lond., M.R.C.P., Physician to Out-patients, Chelsea Hospital for Women; 37, Queen Anne street, Cavendish square, W. *Council*, 1898-1900. *Trans.* 7.

1869 Gill, William, L.R.C.P. Lond., 11, Russell square, W.C.

1891 Gimblett, William Henry, M.D.Durh., Queen's road, Buckhurst hill, Essex.

1899† Glover, Thomas Anderson, M.D., C.M.Edin., 24, Hallgate, Doncaster.

1894† Goddard, Charles Ernest, L.R.C.P. Lond., Wembley. Harrow.

1871 Goddard, Eugene, M.D. Durh., North Lynne, 106, Highbury New Park, N. *Trans.* 1.

1871 *Godson, Clement, M.D., C.M.; 9, Grosvenor street, W. *Council*, 1876-7. *Hon. Sec.* 1878-81. *Vice-Pres.* 1882-4. *Board Exam. Midwives*, 1877, 1882-86. *Trans.* 5.

1893† Goodman, Roger Neville, M.A., M.B.Cantab., Elmside, Kingston-on-Thames.

1893† Gordon, Frederick William, L.R.C.P.Lond., Manukau road, Auckland, New Zealand.

1883 Gordon, John, M.D., 63, Cheapside, E.C.

1869† Goss, Tregenna Biddulph, 1, The Circus, Bath. *Hon. Loc. Sec.*

1891† Gostling, William Ayton, M.D., B.S.Lond., Barningham, West Worthing.

1889 Goullet, Charles Arthur, L.R.C.P.Lond., 2, Finchley road, N.W.

1890 Gow, William John, M.D.Lond., Physician-Accoucheur in charge of Out-patients, St. Mary's Hospital; 27, Weymouth street, W. *Council*, 1893-5. *Board Exam. Midwives*, 1898-1900. *Trans.* 2.

1893† Gowan, Bowie Campbell, L.R.C.P.Lond., Raven Dene, Great Stanmore.

Elected

1893 Grant, Leonard, M.D.Edin., 9, Western villas, New Southgate, N.

1897 Grant-Wilson, Charles Westbrooke, L.R.C.P.Lond., Heathfield House, Streatham common.

1890 Green, Charles David, M.D.Lond., 16, Evelyn mansions, Carlyle place, Victoria street, S.W.

1894† Green, Charles Robert Mortimer, Captain, Indian Medical Service, The Eden Hospital, Calcutta.

1887 Greenwood, Edwin Climson, L.R.C.P., 19, St. John's wood park, N.W.

1863 *Griffith, G. de Gorrequer, 34, St. George's square, S.W. *Trans.* 2.

1879* Griffith, Walter Spencer Anderson, M.D. Cantab., F.R.C.S., F.R.C.P., Assistant Physician-Accoucheur to St. Bartholomew's Hospital; 96, Harley street, W. *Council*, 1886-8, 1893-5. *Hon. Lib.*, 1896-7. *Board Exam. Midwives*, 1887-9. *Trans.* 10.

1870 *Grigg, William Chapman, M.D., Physician to the In-patients, Queen Charlotte's Lying-in Hospital; 27, Curzon street, Mayfair. *Council*, 1875-7. *Board Exam. Midwives*, 1878-9.

1888*†Grimsdale, Thomas Babington, B.A., M.B. Cantab., Surgeon to the Hospital for Women, and Medical Officer to the Liverpool Lying-in Hospital; 29, Rodney street, Liverpool.

1882† Gripper, Walter, M.B. Cantab., The Poplars, Wallington, Surrey.

1880 Grogono, Walter Atkins, Berwick House, Broadway, Stratford, E.

1896† Groves, Ernest W., M.B., B.Sc., Kingswood, Bristol.

1892 Gubb, Alfred Samuel, M.D. Paris, 29, Gower street, W.C.

1887† Hackney, John, M.D. St. And., Oaklands, Hythe.

1881† Hair, James, M.D., Brinklow, Coventry.

Elected

1894 Hamilton, Bruce, L.R.C.P.Lond., "Falklands," 9, Frognal, N.W.

1887† Hamilton, John, F.R.C.S.Ed., Beechhurst House, Swadlincote, Burton-on-Trent.

1883 Handfield-Jones, Montagu, M.D. Lond., M.R.C.P., Physician-Accoucheur to, and Lecturer on Midwifery and Diseases of Women at, St. Mary's Hospital; 35, Cavendish square, W. *Council*, 1887-9, 1896-7. *Board Exam. Midwives*, 1894-6. *Hon. Lib.* 1900. *Trans.* 1.

1889† Hardwick, Arthur, M.D. Durh., Newquay, Cornwall.

1886† Hardy, Henry L. P., Stroud, Gloucestershire.

1892 Harold, John, L.R.C.P.Lond., 91, Harley street, W.

1889 Harper, Charles John, L.R.C.P. Lond., Church end, Finchley, N.

1877 Harper, Gerald S., M.B.Aber., 40, Curzon street, Mayfair, W. *Council*, 1894-5.

1898† Harper, John Robinson, L.R.C.P., 3, Union terrace, Barnstaple, Devon.

1878† Harries, Thomas Davies, F.R.C.S., Grosvenor House, Aberystwith, Cardiganshire.

1867* Harris, William H., M.D., 34, St. Charles square, North Kensington, W.

1880* Harrison, Richard Charlton, 19, Uxbridge road, Ealing, W.

1890† Hart, David Berry, M.D.Edin., Assistant Gynæcologist, Royal Infirmary, Edinburgh; 29, Charlotte square, Edinburgh.

1886† Hartley, Horace, L.R.C.P. Ed., Stone, Staffordshire.

1886 Hartley, Reginald, M.D. Durh., F.R.C.S.Ed., 63, Porchester terrace, Hyde park, W.

1894 Hartzhorne, Bernard Fred., M.R.C.S., Blenheim Lodge, High road, Chiswick.

1893† Harvey, John Jordan, L.R.C.P. & S.Edin., 54, Barking road, Canning Town, E.

Elected

1880 Harvey, John Stephenson Selwyn, M.D.Durh., M.R.C.P., 1, Astwood road, Cromwell road, S.W.

1865† Harvey, Robert, M.D., Abbottabad, Punjab. [Per Messrs. Cochran and Macpherson, 152, Union street, Aberdeen.] *Trans.* 1.

1899† Hawes, Godfrey Charles Browne, L.R.C.P., Pangbourne.

1899† Hawkes, Claude Somerville, L.R.C.P., Rockhampton, Queensland.

1892† Hawkins-Ambler, George Arthur, F.R.C.S.Ed., 67, Rodney street, Liverpool.

1888† Haycock, Henry Edward, L.R.C.P.Ed., Ironville House, Alfreton, Derbyshire.

1893† Haydon, Thomas Horatio, M.B., B.C. Cantab., 22, High street, Marlborough.

1880 Heath, William Lenton, M.D., 90, Cromwell road, Queen's gate, S.W. *Council*, 1891. *Trans.* 1.

1892† Hellier, John Benjamin, M.D.Lond., Lecturer on Diseases of Women and Children, Yorkshire College; Surgeon to the Hospital for Women and Children, Leeds; 1, De Grey terrace, Leeds.

1890† Helme, T. Arthur, M.D.Edin., M.R.C.P., Senior Assistant Surgeon to the Manchester Clinical Hospital for Women and Children, 3, St. Peter's square, Manchester.

1867† Hembrough, John William, M.D., The Moot Hall, Newcastle-on-Tyne.

1876* Herman, George Ernest, M.B., F.R.C.P., Obstetric Physician to, and Lecturer on Midwifery at, the London Hospital; 20, Harley street, Cavendish square, W. *Council*, 1878-9, 1898-1900. *Hon. Lib.* 1880-1. *Hon. Sec.* 1882-5. *Vice-Pres.* 1886-7. *Board Exam. Midwives*, 1886-8. *Treas.* 1889-92. *Pres.* 1893-4. *Trans.* 30.

1892† Hills, Thomas Hyde, L.R.C.P.Lond., 7, St. Peter's terrace, Cambridge.

Elected

1895† Jones, George Horatio, Deddington, Oxon.

1881† Jones, James Robert, M.B., 247, Donald street, Winnipeg, Manitoba, Canada.

1894† Jones, John Arnallt, L.R.C.P. Lond., Heathmont, Aberavon, Port Talbot, Glamorganshire.

1887† Jones, J. Talfourd, M.B. Lond., Consulting Physician to the Breconshire Infirmary, Rose Bank, South terrace, Eastbourne.

1886 Jones, Lewis, M.D., Oakmead, Balham, S.W.

1873† Jones, Philip W., River House, Enfield.

1886† Jones, William Owen, The Downs, Bowdon, Cheshire.

1879† Joubert, Charles Henry, M.B. Lond., F.R.C.S. Eng. Lieut.-Col., Indian Medical Service, Bengal; Obstetric Physician to Eden Hospital, and Professor of Midwifery and Diseases of Women and Children, Calcutta Medical College; 6, Harington street, Calcutta.

1884 Keates, William Cooper, L.R.C.P., 22, East Dulwich road, S.E.

1883† Keeling, James Hurd, M.D., 267, Glossop road, Sheffield. *Hon. Loc. Sec.*

1896 Keep, Arthur Corrie, M.D., C.M.Edin., Surgeon to Outpatients to the Samaritan Free Hospital; 14, Gloucester place, Portman square, W.

1894 Kellett, Alfred Featherstone, M.B., B.C.Cantab., 142, Lewisham road, S.E.

1874* Kempster, William Henry, M.D., Chesterfield, Clapham common, North side, S.W.

1886 Kennedy, Alfred Edmund, L.R.C.P. Ed., Chesterton House, Plaistow, E.

1879 Ker, Hugh Richard, L.R.C.P.Ed., Tintern, 2, Balham hill, S.W.

1895† Kerr, John Martin Munro, M.B., C.M.Glasg., 28, Berkeley terrace, Glasgow.

Elected

1877*†Kerswill, John Bedford, M.R.C.P. Ed., Fairfield, St. German's, Cornwall.

1878† Khory, Rustonjee Naserwanjee, M.D., M.R.C.P., Medical Syndic, Bombay University; Honorary Physician, Bai Motlibai Obstetric and Gynæcological Hospital; Hormazd Villa, Khumballa hill, Bombay.

O.F.* Kiallmark, Henry Walter, 5, Pembridge gardens, Bayswater. *Council*, 1879-80.

1892† Kingscote, Ernest, M.B., C.M.Edin., 31, Lower Seymour street, Portman square, W.

1872* Kisch, Albert, 61, Portsdown road, W. *Council*, 1896-7.

1876† Knott, Charles, M.R.C.P. Ed., Liz Ville, Elm grove, Southsea.

1889 Lake, George Robert, 177, Gloucester terrace, Hyde park, W.

1867* Langford, Charles P., Sunnyside, Hornsey lane, N.

1875† Lawrence, Alfred Edward Aust, M.D., Consulting Professor of Midwifery and Diseases of Women, University College, Bristol; Physician-Accoucheur to the Bristol General Hospital; 19, Richmond hill, Clifton, Bristol. *Council*, 1885-6, 1888. *Vice-Pres.*, 1889-90. *Hon. Loc. Sec. Trans.* 1.

1894† Lea, Arnold W. W., M.D., B.S.Lond., F.R.C.S., Lecturer on Midwifery and Diseases of Women, Owens College; 274, Oxford road, Manchester. *Trans.* 2.

1884*†Lediard, Henry Ambrose, M.D., 35, Lowther street, Carlisle. *Council*, 1890-2. *Trans.* 1.

1897 Leslie, William Murray, M.D. Edin., 67, Grosvenor street, W.

1885 Lewers, Arthur H. N., M.D. Lond., M.R.C.P., Obstetric Physician to the London Hospital; 72, Harley street, W. *Council*, 1887-9, 1893. *Board Exam. Midwives*, 1895-7. *Trans.* 11.

Elected

1894 Livermore, William Leppingwell, L.R.C.P. Lond., 52, Stapleton Hall road, Stroud green, N.

1872*†Lock, John Griffith, M.A., 2, Rock terrace, Tenby.

1899 Lockyer, Cuthbert, M.D., B.S.Lond., F.R.C.S., 20, Devonshire street, Portland place, W.

1893† Logan, Roderic Robert Walter, Church street, Ashby-de-la-Zouch.

1859† Lombe, Thomas Robert, M.D., Bemerton, Torquay. *Council*, 1900.

1894† Loos, William Christopher, L.R.C.P. Lond.

1893† Lowe, Walter George, M.D. Lond., F.R.C.S., Burton-on-Trent.

1878*†Lycett, John Allan, M.D., Gatcombe, Surgeon to the Wolverhampton and District Hospital for Women, Wolverhampton.

1896† Lyons, A., M.B., Thames Ditton.

1871† McCallum, Duncan Campbell, M.D., Emeritus Professor, McGill University; 45, Union avenue, Montreal, Canada. *Trans.* 4.

1890 McCann, Frederick John, M.D., C.M.Edin., M.R.C.P., Physician to Out-patients at the Samaritan Hospital; 5, Curzon street, Mayfair, W. *Council*, 1897-8. *Trans.* 3.

1894† McCausland, Albert Stanley, M.D. Brux., Churchill House, Swanage.

1890 McCaw, J. Dysart, M.D., F.R.C.S., East Finchley, N. *Council*, 1898-1900.

1894† McDonnell, Æneas John, M.D., Ch.M. Sydney, Toowoomba, Queensland.

1896 M'Donnell, W. Campbell, L.R.C.P. Lond., Park House, Park lane, Stoke Newington, N.

1892† McKay, W. J. Stewart, M.B., M.Ch.Sydney, Australian Club, Macquarie street, Sydney, N.S.W.

Elected

1897† McKerron, Robert Gordon, M.B. Aberd., 1, Albyn place, Aberdeen. *Trans.* 1.

1894† McKisack, Henry Lawrence, M.D.Dubl., 15, College square east, Belfast.

1893 Maclean, Ewen John, M.D., C.M.Edin., 23, Henrietta street, Cavendish square, W. *Council*, 1900.

1899 Macleod, William Aitken, M.B., C.M.Edin., 9, Pembridge villas, Bayswater, W.

1886 McMullen, William, L.K.Q.C.P.I., 319A, Brixton road, S.W.

1878 Macnaughton-Jones, H., M.D., M.A.O. (Hon. Causâ), F.R.C.S.I. & Edin., 131, Harley street, Cavendish square, W. *Trans.* 1.

1898 Macnaughton-Jones, Henry, M.B., B.Ch., 12, Sandwell mansions, West End lane, N.W.

1894† McOscar, John, L.R.C.P. Lond., Hazelmere, Goldsworth road, Woking, Surrey.

1899† Maguire, George J., M.B., B.Ch., Kew road, Richmond.

1895† Maidlow, William Harvey, M.D.Durh., F.R.C.S.Eng., Ilminster, Somerset.

1884 Malcolm, John D., M.B., C.M., Surgeon to the Samaritan Free Hospital; 13, Portman street, W. *Council*, 1894-6.

1871† Malins, Edward, M.D., Obstetric Physician to the General Hospital, Professor of Midwifery at Mason College, Birmingham; 50, Newhall street, Birmingham. *Council*, 1881-3. *Vice-Pres.* 1884-6. *Hon. Loc. Sec.*

1868*†March, Henry Colley, M.D., Portisham, Dorchester *Council*, 1890-2.

1887 Mark, Leonard P., L.R.C.P. Lond., 61, Cambridge street, Hyde-park square, W.

1860† Marley, Henry Frederick, The Nook, Padstow, Cornwall.

1862*†Marriott, Robert Buchanan, Swaffham, Norfolk.

Elected

1887† Marsh, O. E. Bulwer, L.R.C.P. Ed., Parkdale, Clytha park, Newport, Monmouthshire.

1890† Martin, Christopher, M.B., C.M.Edin., F.R.C.S.Eng., Surgeon to the Birmingham and Midland Hospital for Women; 35, George road, Edgbaston, Birmingham. *Trans.* 1.

1883† Maurice, Oliver Calley, 75, London street, Reading. *Council,* 1888-90.

1899† Maxwell, John Preston, M.B.Lond., F.R.C.S., c/o E. P. Mission, Amoy, China.

1890 May, Chichester Gould, M.A., M.D.Cantab., Assistant Physician to the Grosvenor Hospital for Women and Children; 59, Cadogan place, S.W.

1884† Maynard, Edward Charles, L.R.C.P.Ed., Arundel lodge, Worthing.

1885† Meller, Charles Booth, L.R.C.P. Ed., Cowbridge, Glamorganshire.

1886 Mennell, Zebulon, 1, Royal crescent, Notting hill, W.

1898 Menzies, Henry, M.B.Cantab., 4, Ashley gardens, S.W.

1882 Meredith, William Appleton, M.B., C.M., F.R.C.S.Eng., Surgeon to the Samaritan Free Hospital for Women and Children; 21, Manchester Square, W. *Council,* 1886-8. *Vice-Pres.* 1891-3. *Trans.* 3.

1893† Michie, Harry, M.B. Aber., 27, Regent street, Nottingham.

1875*† Miles, Abijah J., M.D., Professor of Diseases of Women and Children in the Cincinnati College of Medicine, Cincinnati, Ohio, U.S.

1895† Miller, James Thomas Roger, Castlegate House, Malton, Yorkshire.

1876* Millman, Thomas, M.D., 59, Yonge street, Toronto, Ontario, Canada.

1880† Mills, Robert James, M.B., M.C., 35, Surrey street, Norwich.

Elected

1892† Milton, Herbert M. Nelson, Kasr-el-Aini Hospital, Cairo, Egypt.

1869*†Minns, Pembroke R. J. B., M.D., Thetford, Norfolk.

1867* Mitchell, Robert Nathal, M.D., Brookwood, Hollington, St. Leonard's-on-Sea.

1894† Mondelet, William Henry, M.D., 1, Gladstone terrace, Brighton.

1893† Montbrun, D. Antonio de, L.R.C.P. Lond., Port of Spain, Trinidad, W.I.

1877 Moon, Frederick, M.B., 26, St. Thomas's Street, London Bridge, S.E.

1859† Moorhead, John, M.D., Surgeon to the Weymouth Infirmary and Dispensary; Weymouth, Dorset.

1888 Morison, Alexander, M.D. Ed., 14, Upper Berkeley street, Portman square, W.

1895 Morison, Henry Bannermann, M.B. Durh., Parkwood House, Christchurch road, Boscombe, Bournemouth.

1890 Morris, Charles Arthur, M.A., M.B., B.C.Cantab., F.R.C.S., 29, Eccleston street, Eaton square, S.W.

1883 Morris, Clarke Kelly, Gordon Lodge, Charlton road Blackheath, S.E.

1899 Morris, Edwin Hugh Grant, M.B., B.C.Cantab., 8, Gloucester terrace, Onslow gardens, S.W.

1893 Morrison, James, L.R.C.P. Lond., Camden House, Wylde green, Birmingham.

1893† Morse, Thomas Herbert, F.R.C.S., All Saints' green, Norwich. *Trans.* 1.

1891 Mortlock, Charles, L.R.C.P. Lond., 27, Oxford square, Hyde park, W.

1886† Morton, Shadforth, M.D. Durham, 24, Wellesley road, Croydon.

1896 Mugford, Sidney Arthur, L.R.C.P., 135, Kennington park road, S.E.

Elected

1893 Muir, Robert Douglas, M.D., 286, New Cross road, S.E.

1896† Murphy, James Keogh, M.A., M.D., B.C.Cantab., 35, Princes square, Bayswater, W.

1885 Murray, Charles Stormont, L.R.C.S. and L.M. Ed., 85, Gloucester place, Portman square, W.

1893† Murray, Robert Milne, M.B. Edin., 11, Chester street, Edinburgh.

1893† Nairne, John Stuart, F.R.C.S. Ed., 141, Hill street, Garnethill, Glasgow.

1897† Nanavatty, Byramgi Hormayi, M.D., F.R.C.S.Ed., B. J. School of Medicine, Ahmedabad, Bombay Presidency.

1887 Napier, A. D. Leith, M.D. Aber., M.R.C.P. Lond., F.R.S.Edin., North terrace, East Adelaide, South Australia. *Trans.* 2.

1896† Nariman, R. T., M.D. Brux., Parsi Lying-in Hospital, Bombay.

1892† Nash, W. Gifford, F.R.C.S., Clavering House, De Parys avenue, Bedford.

1859† Neal, James, M.D., Parterre, Sandown, Isle of Wight.

1859*†Newman, William, M.D., Surgeon to the Stamford and Rutland Infirmary; Barn Hill House, Stamford, Lincolnshire. *Council*, 1873-5. *Vice-Pres.* 1876-7. *Trans.* 5.

1889† Newnham, William Harry Christopher, M.A., M.B. Cantab., Physician-Accoucheur to the Bristol General Hospital; Chandos Villa, Queen's road, Clifton, Bristol.

1895† Newstead, James, 9, York place, Clifton, Bristol.

1893† Nichol, Frank Edward, M.A., M.B., B.C. Cantab., 11, Ethelbert Terrace, Margate.

1873† Nicholson, Arthur, M.B. Lond., 30, Brunswick square, Brighton. *Council*, 1897-9.

1894 Nicholson, Edgar, M.R.C.S., The Laurels, High street, Fenny Stratford, Bucks.

Elected

1879† Nicholson, Emilius Rowley, M.D., 19, Cornwallis gardens, Hastings.

1876* Nix, Edward James, M.D., 11, Weymouth street, W. *Council*, 1889-90.

1882† Norman, John Edward, Lismore House, Hebburn-on-Tyne.

1895† Ogle, John Gilbert, M.D.Oxon., Reigate, Surrey.

1888 Oliver, Franklin Hewitt, L.R.C.P. Lond., 2, Kingsland road, N.E.

1899† Osborn, Francis Arthur, L.R.C.P.Lond., The Chalet, Dover.

1890† Osburn, Harold Burgess, L.R.C.P., Bagshot, Surrey.

1877† Osterloh, Paul Rudolph, M.D. Leipzic, Physician for Diseases of Women, Diaconissen Hospital; 16, Sidonienstr., Dresden.

1892 Owen, Samuel Walshe, L.R.C.P.Lond., 10, Shepherd's Bush road, W.

1889* Page, Harry Marmaduke, M.D.Brux., F.R.C.S., 26, Ashley gardens, Victoria street, S.W.

1891† Page, Herbert Markant, M.D.Brux., 16, Prospect hill, Redditch.

1883 Palmer, John Irwin, 132, Harley street, Cavendish square, W.

1877* Paramore, Richard, M.D., 2, Gordon square, W.C.

1867*†Parks, John, Bank House, Manchester road, Bury, Lancashire.

1887 Parsons, John Inglis, M.D.Durh., M.R.C.P., Physician to Out Patients, Chelsea Hospital for Women, 3, Queen street, Mayfair, W. *Trans.* 2.

1880 Parsons, Sidney, 78, Kensington Park road, W.

1865*†Paterson, James, M.D., Hayburn Bank, Partick, Glasgow.

1899 Paul, J. E., M.D., 43, Queensborough terrace, Bayswater, W.

Elected

1882* Peacey, William, M.D., Rydal Mount, St. John's road, Eastbourne.

1894 Peake, Solomon, M.R.C.S., 118, Percy road, Shepherd's Bush, W.

1899 Peck, Francis Samuel, M.R.C.S.Eng., Major, Indian Medical Service; 6, Harrington street, Calcutta.

1871* Pedler, George Henry, 6, Trevor terrace, Rutland gate, S.W. *Council*, 1897-8.

1880*† Pedley, Thomas Franklin, M.D., Rangoon, India. *Trans.* 1.

1898 Penny, Alfred Gervase, M.A., M.B., B.C.Cantab., Queen's Avenue, Muswell Hill, N.

1881† Perigal, Arthur, M.D., New Barnet, Herts. *Council*, 1892–3.

1893 Perkins, George C. Steele, M.D., 85, Wimpole street, W.

1871† Perrigo, James, M.D., 826, Sherbrooke street, Montreal, Canada. *Hon. Loc. Sec.*

1879*† Pesikaka, Hormasji Dosabhai, 23, Hornby row, Bombay.

1883 Pettifer, Edmund Henry, 32, Stoke Newington green, N.

1894 Petty, David, M.B., C.M.Edin., 6, High road, South Tottenham, N.E.

1879 Phillips, George Richard Turner, 28, Palace court, Bayswater hill, W. *Council*, 1891.

1882 Phillips, John, M.A., M.D. Cantab., F.R.C.P., Obstetric Physician to King's College Hospital, and Lecturer on Practical Obstetrics in King's College; 68, Brook street, W. *Council*, 1887-9, 1893. *Hon. Lib.* 1894-5. *Hon. Sec.* 1896-9. *Board Exam. Midwives*, 1892-4. *Vice-Pres.* 1900. *Trans.* 10.

1897 Phillips, Llewellyn C. P., M.B., B.C. Cantab., St. Bartholomew's Hospital, E.C.

1878* Philpot, Joseph Henry, M.D., 61, Chester square, S.W. *Council*, 1891.

Elected

1889† PINHORN, RICHARD, L.R.C.P. Lond., 5, Cambridge terrace, Dover. *Council*, 1897-9.

1889† PLAYFAIR, DAVID THOMSON, M.D., C.M. Edin., Redwood House, Bromley, Kent.

1893 PLAYFAIR, HUGH JAMES MOON, M.D.Lond., Assistant Physician, Hospital for Women and Children, Waterloo road; 7, Upper Brook street, Grosvenor square, W. *Council*, 1900.

1864* PLAYFAIR, W. S., M.D., LL.D., F.R.C.P., Physician-Accoucheur to H.I. & R.H. the Duchess of Edinburgh; Consulting Obstetric Physician to King's College Hospital, 38, Grosvenor street, W. *Council*, 1867, 1883-5. *Hon. Librarian*, 1868-9. *Hon. Sec.* 1870-72. *Vice-Pres.* 1873-5. *Pres.* 1879-80. *Trans.* 15.

1891 POLLOCK, WILLIAM RIVERS, M.B., B.C.Cantab., Assistant Obstetric Physician to the Westminster Hospital, 56, Park street, Grosvenor square, W. *Council*, 1895-7. *Board Exam. Midwives*, 1898-9.

1876* POPE, H. CAMPBELL, M.D., F.R.C.S., Broomsgrove Villa 280, Goldhawk road, Shepherd's Bush, W.

1891† POPE, HENRY SHARLAND, M.B., B.C.Cantab., Castle Bailey, Bridgwater.

1888* POPHAM, ROBERT BROOKS, M.R.C.P. Edin., L.R.C.P.Lond., care of Dr. MacVine, 350, Camden road, N.W.

1864* POTTER, JOHN BAPTISTE, M.D., F.R.C.P., Obstetric Physician to, and Lecturer on Midwifery and Diseases of Women at, the Westminster Hospital; 20, George street, Hanover square, W. *Council*, 1872-6, 1890-2 *Hon. Lib.* 1877-8. *Vice-Pres.* 1879-81. *Treas.* 1882-4, 1893-7. *Board Exam. Midwives*, 1883-4. *Pres.* 1885-6. *Trans.* 1. *Trustee.*

1893 POWELL, HERBERT EDWARD, Glenarm House, Upper Clapton, N.E.

Elected

1886 Prangley, Henry John, L.R.C.P. Lond., Tudor House, 197, Anerley road, Anerley, S.E.

1880* Prickett, Marmaduke, M.A.Cantab., M.D., Physician to the Samaritan Hospital; 27, Oxford square, W. *Council*, 1892.

1895 Priestley, R. C., M.A., M.B.Cantab., 81, Linden gardens, Bayswater, W.

1898† Purslow, Charles Edwin, M.D.Lond., 192, Broad street, Birmingham.

1876*†Quirke, Joseph, M.R.C.P. Ed., The Oaklands, Hunter's road, Handsworth, Birmingham.

1878† Rawlings, John Adams, M.R.C.P.Ed., Preswylfa, Swansea.

1897 Rawlings, J. D., M.B.Lond., The Old House, Dorking.

1870* Ray, Edward Reynolds, 15a, Upper Brook street, W.

1894† Rayner, Herbert Edward, F.R.C.S., Harcourt House, Camberley, Surrey.

1899† Rayner, David Charles, F.R.C.S.Eng., Oriel villa, 45, Cotham road, Bristol.

1860* Rayner, John, M.D., Swaledale House, Highbury quadrant, N.

1879 Read, Thomas Laurence, 11, Petersham terrace, Queen's gate, S.W. *Council*, 1892.

1879† Reid, William Loudon, M.D., Professor of Midwifery and Diseases of Women and Children, Anderson's College; Physician to the Glasgow Maternity Hospital; 7, Royal crescent, Glasgow. *Council*, 1899-1900.

1893† Renshaw, Israel James Edward, F.R.C.S.Edin., Ashton Grange, Cross street, Ashton-upon-Mersey.

1875*†Rey, Eugenio, M.D., 39, Via Cavour, Turin.

1890 Reynolds, John, M.D.Brux., 11, Brixton hill, S.W.

Elected

1872† Richardson, William L., M.D., A.M., Professor of Obstetrics in Harvard University; Physician to the Boston Lying-in Hospital; 225, Commonwealth avenue, Boston, Massachusetts, U.S.

1889† Richmond, Thomas, L.R.C.P. Ed., 22, Holyrood crescent, Glasgow.

1872† Rigden, George, Surgeon to the Canterbury Dispensary; 60, Burgate street, Canterbury. *Trans.* 1. *Hon. Loc. Sec.*

1871* Rigden, Walter, M.D. St. And., 16, Thurloe place, S.W. *Council*, 1882-3. *Trans.* 1.

1892 Roberts, Charles Hubert, M.D.Lond., F.R.C.S.Eng., M.R.C.P., Physician to Out-patients to Queen Charlotte's Hospital; Demonstrator of Practical Midwifery and Diseases of Women, St. Bartholomew's Hospital; 21, Welbeck street, Cavendish square. *Council*, 1897-9. *Trans.* 4.

O.F.*† Roberts, David Lloyd, M.D., F.R.C.P., F.R.S. Edin., Consulting Obstetric Physician to the Manchester Royal Infirmary; and Lecturer on Clinical Midwifery and the Diseases of Women in Owens College; 11, St. John street, Deansgate, Manchester. *Council*, 1868-70, 1880-2. *Vice-Pres.* 1871-2. *Trans.* 5.

1867* Roberts, David W., M.D., 56, Manchester street, Manchester square, W.

1890† Roberts, Hugh Jones, Gwyddfor, Penygroes, R.S.O., N. Wales.

1883 Roberts, John Coryton, L.R.C.P. Ed., 71, Peckham rye, S.E.

1893 Roberts, Thomas, 2, Selborne gardens, York road, Ilford, Essex.

1874* Robertson, William Borwick, M.D., St. Anne's, Thurlow park road, West Dulwich, S.E.

Elected

1892 Robinson, George H. Drummond, M.D., B.S. Lond., Assistant Obstetric Physician, West London Hospital; 84, Park street, Grosvenor square, W. *Council*, 1899-1900. *Board Exam. Midwives*, 1898-1900. *Trans.* 2.

1887 Robinson, Hugh Shapter, L.R.C.P. Ed., Talfourd House, Camberwell, S.E.

1895† Robson, Alfred William, M.D. Brux., Kempstow House, 111, Park road, Aston, Birmingham.

1890† Robson, A. W. Mayo, F.R.C.S., 7, Park square, Leeds.

1876†* Roe, John Withington, M.D., Ellesmere, Salop.

1874*† Roots, William Henry, Canbury House, Kingston-on-Thames.

1874 Roper, Arthur, M.D. St. And., Colby, Lewisham hill, S.E. *Council*, 1886-8.

1859 Rose, Henry Cooper, M.D., 16, Warwick road, Maida hill, W. *Council*, 1875-7. *Trans.* 4.

1893† Rosenau, Albert, M.D., Hôtel Victoria, Kissingen, Bavaria. (*Winter*, Avenue la Costa, Monte Carlo.)

1884† Rossiter, George Frederick, M.B., Surgeon to the Weston-super-Mare Hospital; Cairo Lodge, Weston-super-Mare.

1884† Roughton, Walter, F.R.C.S., Cranborne House, New Barnet.

1882* Routh, Amand, M.D., B.S., Obstetric Physician and Lecturer on Midwifery at Charing Cross Hospital; 14a, Manchester square, W. *Council*, 1886-8, 1896-7. *Board Exam. Midwives*, 1893-5. *Hon. Lib.* 1898-9. *Hon. Sec.* 1900. *Trans.* 4.

O.F.* Routh, Charles Henry Felix, M.D., Consulting Physician to the Samaritan Free Hospital for Women and Children; 52, Montagu square, W. *Council*, 1859-61. *Vice-Pres.* 1874-6. *Trans.* 13.

1887*† Rowe, Arthur Walton, M.D. Dur., 1, Cecil street, Margate.

Elected

1886 Rushworth, Frank, M.D. Lond., 1A, Goldhurst terrace, South Hampstead, N.W.

1888† Rushworth, Norman, L.R.C.P. Lond., Beechfield, Walton-on-Thames.

1886† Rutherfoord, Henry Trotter, M.A., M.D. Cantab., Salisbury House, Taunton. *Council*, 1892-3. *Trans.* 1.

1895† Rutherford, George James, L.R.C.P.Lond.; A.C.S., Accra, West Africa.

1866*†Saboia, Baron V. de, M.D., Director of the School of Medicine, Rio de Janeiro; 7, Rua dom Affonso, Petropolis, Rio Janeiro. *Trans.* 2.

1864*†Salter, John H., D'Arcy House, Tolleshunt d'Arcy, Kelvedon, Essex. *Council*, 1894-6.

1868* Sams, John Sutton, St. Peter's Lodge, Eltham road, Lee, S.E. *Council*, 1892.

1886† Sanderson, Robert, M.B. Oxon., 98, Montpellier road, Brighton.

1872 Sangster, Charles, 148, Lambeth road, S.E.

1877 Savory, Charles Tozer, M.D., 25, Grange road, Canonbury, N. *Trans.* 1.

1894† Savory, Horace, M.A., M.B., B.C.Cantab., 45, Harpur street, Bedford. *Trans.* 1.

1890 Schacht, Frank Frederick, B.A., M.D.Cantab., 168, Earl's Court road, S.W.

1888 Scott, Patrick Cumin, B.A., M.B. Cantab., 38, Shooter's Hill road, Blackheath, S.E.

1882 Serjeant, David Maurice, M.D., 27, Peckham road, S.E.

1875 Seton, David Elphinstone, M.D., 1, Emperor's gate, S.W. *Council*, 1884.

1896† Sharman, Mark, M.B., C.M.Glas., Rickmansworth.

1894† Sharpin, Archdale Lloyd, L.R.C.P. Lond., 23, Kimbolton road, Bedford.

1887 Shaw, John, M.D. Lond., Obstetric Physician to the North West London Hospital; 32, New Cavendish street, Cavendish square, W. *Trans.* 3.

Elected

1891 Shaw-Mackenzie, John Alexander, M.D. Lond., 31, Grosvenor street, W.

1888† Sinclair, William Japp, M.D. Aber., Honorary Physician to the Southern Hospital for Women and Children and Maternity Hospital, Manchester; and Professor of Obstetrics and Gynæcology, Owens College, Manchester; 250, Oxford road, Manchester. *Council*, 1899-1900.

1881† Sloan, Archibald, M.B., 21, Elmbank street, Glasgow.

1876† Sloan, Samuel, M.D., C.M., 5, Somerset place, Sauchiehall street west, Glasgow.

1890† Sloman, Frederick, 18, Montpellier road, Brighton.

1861 Slyman, William Daniel, 26, Caversham road, Kentish Town, N.W. *Council*, 1881.

1867* Smith, Heywood, M.D., 18, Harley street, Cavendish square, W. *Council*, 1872-5. *Board Exam. Midwives*, 1874-6. *Trans.* 6.

1875 Smith, Richard Thomas, M.D., Physician to the Hospital for Women, Soho square; 117, Haverstock hill, N.W.

1886† Smith, Samuel Parsons, L.K.Q.C.P.I., Park Hyrst, Addiscombe road, Croydon.

1899† Smyly, William Josiah, M.D., F.R.C.P.I., 58, Merrion square, Dublin.

1899† Smithson, Oliver, L.R.C.P., Hilldrop House, Grays.

1898† Snell, Sidney Herbert, M.D., B.S.Lond., Grays, Essex; and Gravesend, Kent.

1895 Soden, Wilfred Newell, M.B.Lond., 186, Amhurst road, Hackney, N.E.

1895 Sparks, Charles Edward, M.B., B.C., B.A.Cantab., Netherdale, Church End, Finchley, N.

1868* Spaull, Barnard E., 1, Stanwick road, West Kensington, W.

1888* Spencer, Herbert R., M.D., B.S.Lond., F.R.C.P., Professor of Midwifery in University College, London, and Obstetric Physician to University College Hospital; 104, Harley street, W. *Council*, 1890-92. *Board Exam. Midwives*, 1896-7. *Hon. Sec.* 1898-1900. *Trans.* 7.

Elected

1876† Spencer, Lionel Dixon, M.D., Brigade-Surgeon, I.M.S., Bengal Establishment [care of Messrs. Grindlay and Co., 55, Parliament street, S.W.].

1882 Spooner, Frederick Henry, M.D., Maitland Lodge, Maitland place, Clapton, N.E.

1876† Spurgin, Herbert Branwhite, 82, Abington street, Northampton.

1897 Stabb, Arthur Francis, M.B., B.C. Cantab., Assistant Obstetric Physician to St. George's Hospital, and Lecturer in Midwifery in the University of Cambridge; 109, Harley street, W. *Council*, 1899-1900.

1893 Stack, E. H. Edwards, M.B., B.C. Cantab., Royal Infirmary, Bristol.

1894 Stevens, Thomas George, M.D., B.S. Lond., 8, St. Thomas's street, S.E. *Trans.* 2.

1884† Stevenson, Edmond Sinclair, F.R.C.S. Ed., Strathallan House, Rondebosch, Cape of Good Hope. *Trans.* 2.

1877† Stephenson, William, M.D., Professor of Midwifery, University of Aberdeen; 3, Rubislaw terrace, Aberdeen. *Council*, 1881-3. *Vice-Pres.*, 1887-9. *Trans.* 2.

1875*†Stewart, William, F.R.C.P. Ed., 26, Lethbridge road, Southport.

1884† Stiven, Edward W. F., M.D., The Manor Lodge, Harrow-on-the-Hill.

1884 Stivens, Bertram H. Lyne, M.D.Brux., 107, Park street, Grosvenor square, W.

1883 Stocks, Frederick, 421, Wandsworth road, S.W.

1894† Stott, William Atkinson, M.R.C.S., L.R.C.P. Lond., 1, Grove terrace, Leeds.

1866* Strange, William Heath, M.D., 2, Belsize avenue, Belsize park, N.W. *Council*, 1882-4.

1895 Stuck, Sidney Joseph, M.D., Whitechapel Infirmary, E.

1898† Sturmer, Arthur James, Lieut.-Col., Indian Medical Service, Madras.

Elected

1884 Sunderland, Septimus, M.D., Physician to the Royal Hospital for Children and Women; 11, Cavendish place, Cavendish square, W.

1883* Sutherland, Henry, M.A., M.D. Oxon., M.R.C.P., 21, New Cavendish street, W.

1894 Swallow, Allan James, M.B., B.S. Durh., 5, Mount Edgecumbe gardens, Clapham rise, S.W.

1896 Swan, Charles Atkin, M.B., B.Ch.Oxon., 1, Devonport street, Gloucester square, W.

1893 Swayne, Francis Griffiths, M.A., M.B., B.C.Cantab., 15, Church road, Norwood, S.E.

1859*†Swayne, Joseph Griffiths, M.D., Consulting Physician-Accoucheur to the Bristol General Hospital; Emeritus Professor of Midwifery in University College, Bristol; Harewood House, 74, Pembroke road, Clifton, Bristol. *Council*, 1860-1. *Vice-Pres.* 1862-4. *Trans.* 9.

1892† Swayne, Walter Carless, M.D.Lond., Obstetric Physician, Bristol Royal Infirmary; Lecturer on Practical Midwifery in University College, Bristol; 8, Leicester place, St. Paul's road, Clifton.

1888* Sworn, Henry George, L.K.Q.C.P. & L.M., 5, Highbury crescent, N.

1883 Tait, Edward Sabine, M.D., 48, Highbury park, N. *Council*, 1892-4. *Trans.* 1.

1879 Tait, Edward W., 10, Ellerdale road, Hampstead, N.W. *Council*, 1886-7.

1880*†Takaki, Kanaheiro, F.R.C.S., 10, Nishi-Konyachō, Kiōbashika, Tokio, Japan. *Hon. Loc. Sec.*

1859 Tapson, Alfred Joseph, M.B. Lond., Heath Lodge, Hillingdon, Uxbridge. *Council*, 1862-4. *Vice-Pres.* 1891.

1891 Targett, James Henry, M.B., M.S. Lond., F.R.C.S., Assistant Obstetric Surgeon to Guy's Hospital, 6, St. Thomas's street, S.E. *Council*, 1895. *Board Exam. Midwives*, 1900.

Elected

1892 Tate, Walter William Hunt, M.D.Lond., Assistant Obstetric Physician to, and Lecturer on Midwifery at, St. Thomas's Hospital; 57, Queen Anne street, Cavendish square, W. *Council*, 1895-7. *Board Exam. Midwives*, 1898-9. *Trans.* 1.

1871 Tayler, Francis T., B.A. Lond., M.B., Claremont villa, 224, Lewisham High road, S.E.

1869† Taylor, John, Earl's Colne, Halstead, Essex.

1890*† Taylor, John William, F.R.C.S., Surgeon to the Birmingham and Midland Hospital for Women; Consulting Surgeon to the Wolverhampton Hospital for Women; 22, Newhall street, Birmingham. *Trans.* 2. *Council*, 1900.

1892 Taylor, William Bramley, 145, Denmark hill, S.E.

1885† Taylor, William Charles Everley, M.R.C.P. Edin., 34, Queen street, Scarborough.

1894† Tench, Montague, M.D. Brux., L.R.C.P. Lond., Great Dunmow, Essex.

1890† Thomas, Benjamin Wilfred, L.R.C.P. Lond., Welwyn.

1899† Thomas, J. Raglan, M.D., 13, West Southernhay, Exeter.

1887† Thomas, William Edmund, L.R.C.P.Ed., Pentwyn, Bridgend, Glamorganshire.

1867*† Thompson, Joseph, L.R.C.P. Lond., Surgeon to the General Hospital and Hospital for Women, Nottingham; 1, Oxford street, Nottingham. *Trans.* 1. *Hon. Loc. Sec. Council*, 1896-8.

1878 Thomson, David, M.D., 33, Lowndes street, Belgrave square, S.W.

1873* Ticehurst, Charles Sage, Petersfield, Hants.

1887† Tinley, Thomas, M.D. Durh., Hildegard House, Whitby.

1895† Tinley, William Edwin Falkingridge, M.B., B.S.Durh., Hildegard House, Whitby.

1879† Tivy, William James, F.R.C.S. Ed., 8, Lansdown place, Clifton, Bristol.

1897 Todd-White, Arthur Thomas, L.R.C.P. Lond., Wentworth Lodge, Fillebrook road, Leytonstone.

Elected

1872† Tototschinoff, N., M.D., Charkoff, Russia.

1884 Travers, William, M.D., 2, Phillimore gardens, W.

1893† Trethowan, William, M.B., C.M. Aber., care of Dr. Mac-Williams, Perth, Western Australia.

1886† Tuckett, Walter Reginald, Woodhouse Eaves, near Loughborough.

1898 Turner, Arthur Scott, L.R.C.P.Lond., Stanton, Anerley, S.E.

1865* Turner, John Sidney, Stanton House, 81, Anerley road, Upper Norwood, S.E. *Council*, 1893-4.

1891 Turner, Philip Dymock, M.D.Lond., Sudbury villa, Ryde, Isle of Wight. *Trans.* 1.

1861 Tweed, John James, F.R.C.S., 14, Upper Brook street, W. *Council*, 1896.

1897 Twynam, George Edward, L.R.C.P.Lond., 31, Gledhow gardens, S.W.

1890 Tyrrell, Walter, L.R.C.P.Lond., 104, Cromwell road, S.W.

1893 Umney, William Francis, M.D.Lond., Heatherbell, 15, Crystal Palace park road, Sydenham, S.E.

1874* Venn, Albert John, M.D., 63, Grosvenor street, W.

1873* Verley, Reginald Louis, F.R.C.P. Ed., St. George's Club, Hanover square, W.

1892† Verrall, Thomas Jenner, L.R.C.P.Lond., 97, Montpellier road, Brighton.

1879† Wade, George Herbert, Ivy Lodge, Chislehurst, Kent. *Council*, 1892-3.

1894† Wagstaff, Frank Alex., L.R.C.P. Lond., Saffron Walden, Essex.

1860† Wales, Thomas Garneys, Downham Market, Norfolk.

1898† Walker, Alfred, M.D., B.C., M.A.Cantab., 12, Lingfield road, Wimbledon.

1866† Walker, Thomas James, M.D., Surgeon to the General Infirmary, Peterborough; 33, Westgate, Peterborough. *Council*, 1878-80. *Hon. Loc. Sec.*

Elected

1889 WALLACE, ABRAHAM, M.D. Edin., 39, Harley street, W.

1870 WALLACE, FREDERICK, Foulden Lodge, Upper Clapton, N.E. *Council*, 1880-2.

1897† WALLACE, JAMES ROBERT, M.D.Brux., F.R.C.S.I., 50, Park street, Calcutta.

1883 WALLACE, RICHARD UNTHANK, M.B., Cravenhurst, Craven park, Stamford hill, N.

1893† WALLS, WILLLAM KAY, M.B. Lond., 14, St. John street, Manchester.

1879*†WALTER, WILLIAM, M.A., M.D., Surgeon to St. Mary's Hospital, Manchester; 20, St. John street, Manchester.

1867*†WALTERS, JAMES HOPKINS, Surgeon to the Royal Berkshire Hospital; 15, Friar street, Reading, Berks. *Council*, 1884-6. *Trans.* 1. *Hon. Loc. Sec.*

1873† WALTERS, JOHN, M.B., Church street, Reigate, Surrey. *Council*, 1896-8. *Trans.* 1.

1898*†WARD, CHARLES, F.R.C.S.I., M.R.C.S.Eng., Pietermaritzburg, Natal, S. Africa.

1895 WARNER, FREDERICK ASHTON, L.R.C.P., 10, Brechin place, South Kensington, S.W.

1898† WATSON, C. R., M.D.Brux., 3, Mount Ephraim road, Tunbridge Wells.

1899† WATSON, HARRY JACKSON, M.D., C.M. Toronto, Ottumwa, Iowa, U.S.A.

1884† WAUGH, ALEXANDER, L.R.C.P. Lond., Midsomer-Norton Bath.

1894† WEBB, JOHN CURTIS, M.A., M.B., B.C.Cantab., 6, Collingham place, Earl's Court.

1886† WEBBER, WILLIAM W., L.R.C.P. Ed., Crewkerne.

1893† WEBSTER, THOMAS JAMES, Brynglâs, Merthyr Tydvil.

1897† WEEKS, COURTENAY CHARLES, L.R.C.P.Lond., 9, Lewisham park, Lewisham, S.E.

Elected

1886† WEST, CHARLES J., L.R.C.P. Lond., The Grove, Fulbeck, Grantham.

1888* WESTON, JOSEPH THEOPHILUS, M.D.Brux., Civil Surgeon, Hissar, Punjab (care of Messrs. Thacker, Spink, and Co., booksellers and publishers, Government place, Calcutta).

1890 WHEATON, SAMUEL W., M.D.Lond., Physician to the Royal Hospital for Children and Women; 76, The Chase, Clapham common, S.W.

1889† WHITCOMBE, CHARLES HENRY, F.R.C.S. Edin., 281, Queen's road, Halifax.

1890 WHITE, CHARLES PERCIVAL, M.A., M.B., B.C.Cantab., 144, Sloane street, S.W.

1882 WHOLEY, THOMAS, M.B. Durh., Winchester House, 50, Old Broad street, E.C.

1894† WILLIAMS, JOHN D., M.D. Ed., B.Sc., 20, Windsor place, Cardiff.

1872 WILLIAMS, Sir JOHN, Bart., M.D., F.R.C.P., Physician-Accoucheur to H.R.H. Princess Beatrice, Princess Henry of Battenberg; Consulting Obstetric Physician to University College Hospital; 63, Brook street, Grosvenor square, W. *Council*, 1875-6, 1892, 1894. *Hon. Sec.* 1877-9. *Vice-Pres.* 1880-2. *Board Exam. Midwives*, 1881-2; *Chairman*, 1884-6. *Pres.* 1887-8. *Trans.* 12. *Trustee.*

1897 WILLIAMS, JOSEPH WILLIAM, L.R.C.P., 128, Mansfield road, Gospel Oak, N.W.

1890 WILLIAMS, REGINALD MUZIO, M.D.Lond., 35, Kensington park gardens, W.

1899 WILLIAMSON, HERBERT, M.A., M.B., B.C.Cantab., 10, Bentinck street, Manchester square, W. *Trans.* 1.

1881 WILLIS, JULIAN, M.R.C.P. Ed., 64, Sutherland avenue, Maida vale, W.

1898† WILSON, CLAUDE, M.D.Edin., Belmont, Church road, Tunbridge Wells.

Elected

1892† Wilson, Thomas, M.D., B.S.Lond., F.R.C.S., Assistant Obstetric Physician at the General Hospital, Birmingham; 22, Temple row, Birmingham. *Trans.* 2.

1886† Winterbottom, Arthur Thomas, L.R.C.P. Ed., Lark hill, Swinton, Manchester.

1896† Winter, John Bradbury, L.R.C.P, 28, Montpelier road, Brighton.

1877* Wintle, Henry, M.B., Elmsleigh, High street, Staines.

1893 Wise, Robert, M.D.Edin., 5, Weston park, Crouch End, N.

1887† Withers, Robert, Stenteford Lodge, Spencer terrace, Lipson road, Plymouth.

1890 Wornum, George Porter, 58, Belsize park, Hampstead, N.W.

1876† Worts, Edwin, 6, Trinity street, Colchester.

1887† Wright, Charles James, Senior Surgeon to the Hospital for Women and Children, Leeds; Professor of Midwifery to the Yorkshire College; Lynton Villa, Virginia road, Leeds.

1888*† Wyatt-Smith, Frank, M.B., B.C.Cantab., British Hospital, Buenos Ayres.

1871 Yarrow, George Eugene, M.D., 26, Duncan terrace, Islington, N. *Council*, 1881-3.

1882*† Young, Charles Grove, M.D., Berbice, Sea road, Bexhill-on-Sea.

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The Society is not as a body responsible for the facts and opinions which are advanced in the following papers and communications read, nor for those contained in the abstracts of the discussions which have occurred at the meetings during the Session.

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AGNES HANNAM, F.R.S.L.,
Secretary and Librarian.

OBSTETRICAL SOCIETY

OF

LONDON.

SESSION 1899.

JANUARY 4TH, 1899.

C. J. CULLINGWORTH, M.D., President, in the Chair.

Present—42 Fellows and 2 visitors.

Books were presented by Mr. Bland Sutton, Mr. Harrison Cripps, and the Royal Medical and Chirurgical Society.

Francis James Lea, M.R.C.S.Eng., was admitted a Fellow of the Society.

Charles Ward, F.R.C.S.I.(Pietermaritzburg), was declared admitted.

The following gentlemen were proposed for election :— William Josiah Smyly, M.D. (Dublin) ; Walter Andrew Bowring, F.R.C.S.Eng. (Brighton).

The following gentlemen were elected Fellows :—John Shields Fairbairn, M.B., B.Ch.Oxon. ; Henry Gervis, M.A.,

M.B. (Brighton); John Preston Maxwell, M.B.Lond., F.R.C.S.

The following gentlemen were nominated as auditors for the year 1898:—Dr. Campbell Pope, Dr. Huxley, and Dr. Maclean.

TUMOUR EXPELLED FROM THE UTERUS DURING NATURAL LABOUR, ALONG WITH MICROSCOPIC SECTIONS.

Shown by Arnold W. W. Lea, M.D., B.S., F.R.C.S.

The tumour was expelled from the uterus during natural labour. The patient, a multipara, had hydramnios, and pains came on at six and a half months, accompanied by considerable hæmorrhage. After rupture of the membranes and delivery of the child, a mass was found in the cervix uteri and removed. The placenta was then taken away by hand; the after progress of the case was uninterrupted, and the patient is now quite well.

The tumour is an irregular, soft, lobulated mass weighing eight ounces. It is covered with a firm fibrous capsule, and the lobes are loosely held together by connective-tissue septa. There is no evidence of a fœtus or of placental structure.

On section numerous small cysts are seen of varying size up to that of a hazel-nut. The cysts contain watery albuminous fluid and are lined by smooth membrane.

Microscopically the capsule is composed of firm fibrous tissue with numerous large capillaries in the deeper layer. Beneath this is embryonic connective tissue, with numerous closely-arranged round cells. Throughout this stroma glands are seen lined by a single layer of cubical epithelium; some of them are distended to form the cysts

above mentioned. In other places embryonic gland tissue is recognised. Scattered through the mass are groups of large cells with deeply-stained nuclei, undistinguishable from fœtal cartilage. Sections were taken from various parts of the tumour, but no further fœtal structures were discovered.

The specimen was referred to a sub-committee consisting of Drs. Eden, Lea, and Mr. Bland Sutton for further examination and report.

MICROSCOPICAL SLIDES FROM A CASE OF INTERMENSTRUAL PAIN (MITTELSCHMERZ).

Shown by Augustus Addinsell, M.D.

Dr. Addinsell showed some microscopical sections, and gave a demonstration on the condition of the tube and ovary, removed by Mr. Bland Sutton for the relief of intermenstrual pain which had persisted for eight years.

The pain had followed the birth of the last child; its chief characteristics were that it commenced twelve to fourteen days after the cessation of the period, was referred to the left ovarian region, increased in intensity for three days, and was usually but not always accompanied by the discharge of a clear watery fluid from the vagina.

The uterus was acutely retroflexed, bound down by adhesions, and the left ovary was firmly impacted in the angle formed by the flexion. There was nothing of interest in the ovary, which was sclerosed and cystic.

The tube was found to be closed at the abdominal end; the diameter of the lumen was somewhat increased.

Microscopical examination failed to reveal either the gonococcus or tubercle bacillus. There was marked thin-

ning of the walls, and evidence of œdema separating the muscle-fibres. The ends of the plicæ were clubbed; small-celled infiltration was considerable in the connective-tissue stroma of the plicæ, and in the subepithelial connective tissue of the tube wall. The epithelial cells were in a condition of cloudy swelling; the cell walls were ill-defined and the nuclei undergoing alteration. Cell proliferation was very marked, and in many places there was a heaping up into clusters and bunches of epithelial cells. This was the first occasion upon which the pathological histology of the tube had been demonstrated in connection with intermenstrual pain. The closure of the uterine end, and also of the abdominal ostium, would convert the tube into a retention cyst and produce hydrosalpinx. In this case, however, the abdominal ostium alone being closed, the increased secretion of fluid due to the marked proliferation of epithelial cells, would naturally pass in the direction of least resistance, namely through the patent uterine end into the uterus, whence it would be expelled into the vagina.

Mr. Alban Doran considered that Dr. Addinsell really implied that "Mittelschmerz" was a disease caused by catarrhal inflammation of the tube with obstruction. This theory required confirmation by careful clinical study, otherwise operators might assume too hastily that it was fully proved, so that many tubes and ovaries would be sacrificed.

After hearing Mr. Bland Sutton's observations, Mr. Doran noted that in this solitary case of the alleged cure of "Mittelschmerz" by removal of one ovary and tube, hysteropexy had also been performed. The share of the latter proceeding in relieving what might be a pure neurosis must be taken into account. Doléris's case of papilloma of the tube with profuse watery discharge, owing to the uterine end of the tube being patulous, was homologous to Dr. Addinsell's, but was not accompanied by Mittelschmerz.

Dr. Herman said the Society was indebted to Dr. Addinsell for a beautiful demonstration of the early stage of hydrosalpinx. But why was the ovary exonerated from all blame in the production of "Mittelschmerz"? It was said to be cystic and cirrhosed. The ovary was believed to undergo a monthly cycle of change; but there was no reason to think that the Fallopian

tube did. Might not the ventral fixation of the uterus have had something to do with the relief obtained? He still thought it most probable that regularly recurring intermediate pain was due to painful ovulation. Lastly, he asked, was it necessary to go to Germany for a name by which to denote this form of disease?

A SPECIMEN PRESERVED IN FORMALIN, OF AN EARLY GESTATION IN BOTH HORNS OF THE UTERUS OF A BITCH, DISPLAYING THE ALLANTOID VESSELS IN THEIR NATURAL COLOUR.

Shown by Amand Routh, M.D.

DERMOID TUMOURS OF BOTH OVARIES; TWISTED PEDICLE.

Shown by Robert Boxall, M.D., M.R.C.P.

These tumours were recently removed from an unmarried lady twenty-two years of age. Ten weeks ago she had a sudden attack of pain in the left ovarian region, with febrile disturbance and indications of local peritonitis. A similar but less severe attack had occurred eleven months previously.

Each tumour is the size of a cocoa-nut. The tumour of the left ovary extended as high as the umbilicus, and was entirely abdominal. It was found to be adherent chiefly to omentum, in one place to small intestine and in another to the fundus of the uterus. Its pedicle was twisted on itself two and a half turns, and at the point of torsion was no thicker than a crow-quill. The distal end

of the Fallopian tube was so atrophied as to be barely recognisable. Hæmorrhage had occurred in parts of the tumour. The cyst contains a crop of teeth and hair. The tumour of the right ovary was half in and half out of the pelvis, and was attached by a broad pedicle. It is mainly composed of fat and hair.

From the state and age of the patient, the well-defined nature and consistence of the tumours, and the sudden attacks of pain followed by peritonitis, it was possible to form beforehand a fairly certain opinion as to the nature of the case.

All are agreed that such tumours should as a rule be removed as soon as possible, but as regards the necessity for absolute rest when the operation cannot be immediately undertaken, there appears to be less general agreement. This specimen is shown, not because dermoid tumours are rare, even when complicated by twisting of the pedicle, but, as there were family reasons for postponing the operation for two months after the febrile symptoms had subsided, because the case provides an opportunity for advocating the necessity of enjoining complete rest in the interval. Dermoid tumours in any case are not endowed with a high degree of vitality. When twisting of the pedicle has occurred their vitality is apt to be seriously jeopardised. Any slight provocation may cause fresh inflammation, suppuration in the tumour or rupture of the sac. If such dangers are to be avoided pending operation, absolute rest should be insisted upon.

A CASE OF ECTOPIC (INTRA-LIGAMENTOUS) GESTATION AT THE SEVENTH MONTH, IN WHICH THE FŒTUS WAS EXTRACTED BY VAGINAL INCISION.

By Archibald Donald, M.D., M.R.C.P., Manchester.

(Received November 24th, 1898.)

The patient, H. L—, aged 33, was admitted to St. Mary's Hospital, Manchester, on July 20th, 1898. She had been married about a year, and the monthly periods were regular up to the 20th of January. In February she had a slight discharge, and in March there was a continuous discharge for three weeks. In May swelling of the abdomen was noticed and the breasts were enlarged, and in June she felt movements internally. About a fortnight before admission she commenced to have great abdominal pain and pressure symptoms, and she then consulted Dr. Winterbottom, of Swinton, who sent her to the hospital.

On admission the patient was very thin and anæmic. The abdomen was found uniformly enlarged by a tumour which reached about four inches above the umbilicus. Low down on the left side the tumour felt distinctly firm, but its surface generally was more indefinite. The percussion note below the upper limit of the tumour was dull, except in the left lumbar region.

A loud souffle was distinctly heard, but the fœtal heart-sounds were not made out. On vaginal examination the cervix was felt close to the pubes, and the uterus could be mapped out bimanually in front and to the left, and seemed about the size of a two months' pregnant uterus. The posterior vaginal fornix was bulged by a

hard mass, which almost entirely filled the pelvic brim. This was undoubtedly a fœtal head, separated from the finger by a thin layer of tissue through which the sutures could be distinctly made out. The whole of these facts were not ascertained until the patient had been in hospital for more than a fortnight. When she was admitted the abdomen was so tender and the patient's general condition so bad, that it was thought best to let her rest quietly in bed for that time. At the end of that period an anæsthetic was given and the conditions just described were noted.

The case was clearly one of extra-uterine pregnancy of the seventh month; the difficulty was to decide as to the best course to pursue. I was guided in my decision by the fact that the patient was suffering a great deal from pressure symptoms, and her general health was rapidly becoming worse. I therefore decided that immediate operation was the safest plan. The next question was as to the method of operation. There was no doubt that the fœtal head lay in the pelvis, and that the placenta did not intervene between it and the vagina. Extraction of the child by abdominal section would, therefore, almost certainly be attended with great difficulties, owing to the placenta lying above the child. Before deciding, however, to extract the child *per vaginam*, I thought it best to make a preliminary abdominal incision, so that I might be quite certain as to the exact position of the fœtus and placenta.

The operation was performed on the 18th August, 1898. On carefully dividing the abdominal wall I came at once on a large bluish mass which was undoubtedly placenta. Towards the lower pole of the fœtal sac the placental tissue thinned out, and was replaced by reddish fibrous tissue, which was directly continuous with the peritoneum covering the uterus. On the outer side, even low down, there were some large placental vessels. I took great care not to disturb the parts, but having decided that it was better to operate by the vagina, I

introduced a large sterilised gauze pad into the abdominal incision and covered it over with hot cloths. The patient was then put into the lithotomy position and the posterior fornix opened with scissors. The fœtal head was at once seen, but as it was evidently impossible to extract it undiminished through the vagina without risk of serious laceration of the soft parts, I perforated and removed the vault of the skull in portions. The fœtus was then easily extracted. It seemed a well-developed child of about the seventh month, and had been living up to the time of operation. No attempt was made to remove the placenta. The edges of the vaginal opening were then seized with forceps, the cord was divided a little above the vulva, and the cavity from which the fœtus had been removed was packed with iodoform gauze. During the plugging the abdominal incision was exposed and the edges held apart, so that it was possible to see the fœtal sac (which was now somewhat collapsed), being distended by the gauze packing. The vaginal incision went straight into the sac, and did not communicate with the peritoneal cavity. There was considerable hæmorrhage from one corner of the vaginal opening, but this was easily controlled by a large pressure forceps, which was left *in situ* for forty-eight hours. The abdominal incision was then closed and the patient put back to bed.

The patient made an uninterrupted recovery, except that when the gauze was removed for the first time, on the 21st August (fourth day after operation), there was alarming hæmorrhage, which, however, was controlled by again packing. Six days later the gauze was again removed, and afterwards douching and repacking were done regularly. Sloughing and separation of the placenta did not begin to take place for some weeks, and then it was some weeks longer before the sloughs ceased to come away. But at no time was the patient's condition such as to cause anxiety. The after-treatment was carried out by Dr. Walls, the obstetric assistant surgeon, as I had to leave home a few days after the operation.

On the 21st October the patient's temperature became normal, and she was discharged strong and well on November 12th.

The points that are worthy of note in this case seem to me to be as follows:

1. *The position of the fœtus.*—When the abdomen was opened it was possible to observe the exact relations of the fœtal sac in front. It was separated from the peritoneum of the abdominal wall by a distinct space, which extended to the level of the middle of Poupart's ligament, at which level the peritoneum of the sac ran forwards and became continuous with the peritoneal lining of the abdominal wall. The uterus was lifted somewhat out of the pelvis, and lay in front and on the left side of the sac, which was covered by peritoneum derived from the broad ligament. From this point of view, in fact, the relations of the sac were exactly those of an intra-ligamentous cyst. It is possible that the case may have been one of advanced tubal pregnancy, as it is not easy at an advanced stage to distinguish such a condition from an intra-ligamentous pregnancy. But from the manner in which the peritoneum was lifted from the pelvic floor it was evident that the pregnancy had developed in the folds of broad ligament, either after rupture or by the growth of a tubal pregnancy. If there had been rupture of the tube and escape of the embryo into the broad ligament, the time of such rupture was not marked by any special symptoms, but it probably occurred in March, when the patient had continuous hæmorrhage for three weeks. An important point, in which the case differed from other cases of intra-ligamentous pregnancy, was the fact that the peritoneum was not lifted off the abdominal wall in front, so that it would have been quite impossible to open into the sac from the abdomen without opening the peritoneal cavity. The relations of the sac behind could not, of course, be ascertained.

2. *The nature of the operation.*—The operation of the removal of the fœtus through the vagina is not a new

one. The most complete list of cases in which it has been performed is furnished by Dr. Herman in a paper read before this Society in 1887. In that list he gives twelve cases of vaginal operation, at or near term, of which five were successful. In only four of the twelve cases is there reason to believe that the placental circulation was still in full activity. At the end of his paper he makes the following statement amongst his conclusions :—" At, or soon after, full term, before suppuration has occurred, there may be conditions which indicate delivery by the vagina as preferable to abdominal section. These are : when the fœtus is presenting with the head, feet, or breech, so that it can be extracted without altering its position, and when it is quite certain from the thinness of the structures separating the presenting part from the vaginal canal, that the placenta is not implanted on this part of the sac, and it is not equally certain that the placenta is not attached to the anterior abdominal wall."

So far very few have agreed with this opinion. The following have been alleged as objections to the vaginal method :—(1) that the placenta may be torn into, as it is not always easy to say where the placental margin ends ; (2) that even if the placenta be not torn there is danger of tearing the enlarged vessels which are found in the parametric tissues ; and (3) that there is greater risk from sepsis. The first objection is the only serious one at the present time, since it is known that hæmorrhage from the broad ligament can be as easily controlled from the vagina as from the abdomen, and that sepsis, especially septic peritonitis, is at least no more likely to follow a vaginal than an abdominal operation. It was through fear of injury to the placenta that I decided to make an exploratory abdominal section before venturing to extract the fœtus through the vagina ; but having made sure that the placenta was situated on the upper portion of the fœtal sac, it seemed to me much the safest course to open through the vagina.

I think the case teaches a useful lesson, namely, that

it is well to ascertain, as fully as is possible with safety, the relations of the fœtal sac and the placenta before definitely deciding on the method of operation, even if a preliminary abdominal section is required for this purpose. It also furnishes further proof that, in certain cases of advanced extra-uterine gestation vaginal section offers a comparatively safe way of removing the fœtus.

Dr. GALABIN said that in intra-ligamentous pregnancy the vaginal method of operating, when practicable, secured several important advantages. In the abdominal operation it was generally necessary to stitch the sac to the abdominal walls. This involved a prolonged convalescence, a possible sinus, and the chance of a weak spot being left in the abdominal wall. If the sac was opened from the vagina, gravity assisted drainage, and in consequence the sac closed much more quickly, and any temporary sinus gave little inconvenience. In several cases of extra-uterine fœtation of shorter duration than seven months he had recently adopted the plan followed by Dr. Donald, namely, to make an exploratory abdominal incision, and afterwards, if the case proved to be one of intra-ligamentous pregnancy unruptured, or if the pelvis was completely shut off by adhesions, to open the sac *per vaginam;* and all these cases had proved satisfactory. In one case the wisdom of the previous abdominal exploration was verified, for the sac proved to be ruptured, and a large quantity of blood and clot in the peritoneum was in no degree shut off by adhesion, although the presumed date of rupture was three weeks previous. The operation was then completed from the abdomen with a favourable result. In one patient, recently in Guy's Hospital, the relative methods of the two modes of operation were well shown. She had intra-ligamentous pregnancy twice within two years, first on the right, then on the left side. On the first occasion the fœtus lived up to five months. The sac was opened by a lateral incision and stitched to the abdominal wall. The convalescence was slow, a sinus remained for months, and a weak spot still existed at the site of incision. On the second occasion also the date of conception and size of tumour pointed to a five months' pregnancy, but the fœtus proved to be only of four months' development, part of the mass consisting of clot. A median abdominal exploratory incision was made, and the sac was found firmly covered in by adhesions, and evidently situated in the left broad ligament. It was then opened *per vaginam* and the fœtus removed. Hæmorrhage was too free to allow removal of the placenta. After three days, however, the temperature having risen, the plug was removed, the placenta peeled

off, and the cavity re-plugged. Convalescence was rapid, and the sac very quickly closed.

The PRESIDENT said that Dr. Donald could already lay claim to be considered as a pioneer in the treatment of *early* ectopic gestation and its complications by operation through the vagina, and he had now brought before the Society a case of *advanced* ectopic gestation treated by the same method. It was true that Dr. Herman, in the paper to which allusion had been made, had collected several instances in which, in the years gone by, an extra-uterine fœtus had been extracted through an opening in the vaginal roof. But Dr. Donald only saw this paper after his operation, and, so far as *he* was concerned, the operation was original. The idea of making himself master of the situation in the first instance by opening the abdomen and ascertaining by actual inspection how the land lay, so to speak, seemed to him (the President) worthy of the best surgery. He thus completed and made certain of the diagnosis, in the only way that it was possible for this to be done, before the operation. He would be glad to know if any opinion had been formed as to the source of the hæmorrhage that had formed so troublesome a complication during convalescence.

Dr. DONALD, in reply to the President, said that Dr. Walls, who was responsible for the after-treatment of the case, believed that the hæmorrhage which occurred on removal of the iodoform gauze came from a placental vessel, and not from the cut edges of the vaginal vault.

Some of the speakers had referred to vaginal operation in early tubal pregnancy, but this opened out rather too large a field for present discussion. Dr. Donald wished, however, to express the opinion that, as a general rule, vaginal incision was a safer method of operating in early cases—*i. e.* up to the third month—than abdominal section.

VULVAL DISCHARGES IN CHILDREN.

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Some three years ago, at a time when the writer of this paper was working at gonorrhœa in the female by means of cultivation experiments, he was consulted by the guardian of four little sisters who had recently lost their mother, and who were found to be suffering from a yellow vulval discharge. The youngest child, aged two and a half years, had been the first affected, and the condition had gradually spread to the others. The children looked perfectly healthy, and the only symptom complained of was pruritus vulvæ.

Cover-glass specimens were made of the pus from these cases, and on staining them it was found that in many of the pus cells cocci were present which could not be distinguished from the gonococci of Neisser.

Since that time the writer has taken careful notes of all the cases of this condition that he has met with, and the discharges have been examined as carefully as circumstances permitted. He has to thank several friends for kind assistance, and especially Dr. R. H. Crowley, whose help has been invaluable.

So far fifty-four cases have been investigated, and it is thought that the observations on them may prove interesting to the Fellows of the Society, since, as far as

the writer is aware, the subject has not previously been worked at in this country. In fact, a former President of this Society, Dr. Herman, in his book on the 'Diseases of Women,' which has recently been published, makes the following remarks: "We know nothing about the causes of vulvitis in children. Books contain statements about its cause, but no evidence."

Before details of the cases are given it will be necessary, in some preliminary remarks, to remind the Fellows of the Society of certain of the facts known about the gonococcus of Neisser, and the methods by which it may be distinguished from other micro-organisms which possess more or less similar characters. But, in order to avoid undue prolixity, reference shall only be made to those points which have a direct bearing on the subject of the paper, all other matter, however interesting it may be, being omitted.

Chief characters of the gonococcus.—The gonococcus of Neisser, proved by repeated cultivation and inoculation experiments to be the cause of gonorrhœa, is found in the pus of gonorrhœal discharges situated typically within the protoplasm of the pus cells. Sometimes the cocci are few in number, at other times the cell seems to be packed with them. Under favourable circumstances the coffee-bean shape of each coccus can be made out, but this is not always possible. If a cover-glass specimen of gonorrhœal pus is stained with a solution of gentian violet in anilin water, and then mounted in a drop of water and examined, the nuclei of the cells and the gonococci are seen deeply stained of a violet colour. If the specimen is now immersed in Gram's iodine solution and then placed in absolute alcohol, washed and again mounted and examined, it will be found that both nuclei and cocci have lost their colour. Most other pyococci when treated in this way still retain the stain, and this may be seen in specimens of gonorrhœal pus when organisms other than the gonococcus are also present. Under these circumstances the gonococci and nuclei disappear, but

the other organisms remain coloured. This method of staining is known as Gram's method.

The gonococcus is very sensitive to changes of temperature, and a rise or fall to a few degrees above or below the body heat destroys it. This causes one of the great difficulties in making cultivations when the material is some way from the incubator. Unless the patient can be taken to the laboratory, so that the inoculated tube may be immediately placed in the incubator at the proper temperature, it is almost impossible to avoid failure.

The gonococcus does not grow in or on the ordinary media, such as broth, gelatin, or agar-agar, but must be cultivated on specially prepared material.

Other micro-organisms have been found within pus cells by observers such as Bumm and Kiefer, but Steinschneider, one of the most recent and competent writers on the subject, states that we know of no diplococcus that is found within pus cells obtained from the genital organs, and which fails to retain the stain when treated by Gram's method, except the gonococcus of Neisser.

The *Diplococcus intra-cellularis* found within the pus cells in certain cases of meningitis grows well on agar-agar, which, as has been stated before, is not the case with the gonococcus.

The diplococcus found in the simple posterior basic meningitis of infants, and described recently by Dr. Still, has sometimes an intra-cellular appearance, and may in cover-glass specimens closely resemble the gonococcus, but it grows readily in broth and on agar-agar.

Contagious characters of the pus of vulvo-vaginitis.—It has long been known that the discharge from the genital organs of children suffering from so-called "vulvitis" or "vulvo-vaginitis" is capable of producing the same condition of vulvitis in healthy children if it comes in contact with their genital organs. In this way epidemics have arisen in orphanages and other institutions in which large numbers of children have been housed together.

Atkinson describes an epidemic of six cases which arose

in a charitable institution at Baltimore, and gives some interesting information as to the way in which the disease probably spread. To this reference will again be made.

Skutsch describes an epidemic at Posen. Within a fortnight 236 children were affected. Skutsch thinks that the contagion was conveyed from child to child in brine baths.

Reference has already been made to an instance in which four little sisters suffered from the condition at the same time, and in two other instances the writer found more than one member of a family affected in this way.

Instances of acute purulent conjunctivitis being preceded or accompanied by this condition are common. The writer has seen several cases of this sort, but in only one case was he able to make an examination of the vulval discharge (Case 7, Series I).

Cséri quotes the case of a short-sighted nurse who got one of her eyes infected with the discharge while syringing the genitals of a child suffering from vulvitis. Severe inflammation ensued, and the eye was lost.

Martin infected the urethra of a healthy man with the pus from a child who was suffering from a purulent vulval discharge. It was impossible to trace the origin of this discharge to gonorrhœal infection, and the child did not suffer from painful micturition; nevertheless typical gonorrhœa was produced in the male.

Koplik describes the case of two boys, aged nine and five years respectively, who were suffering from a purulent urethral discharge. He remarks "these two boys aged five and nine years had attempted intercourse with a small girl living in the same tenement. The girl was suffering from a vulvo-vaginitis."

A number of observations have been made on the pus from these cases, but in very few have the most reliable tests been used, and the writer has been unable anywhere to find notes of the symptoms, &c., such as he has been in the habit of taking.

Bacteriological characters of the pus.—Out of fifty-four (54) cases in which the writer has examined the discharges of children suffering from this condition, forty-one (41) cases have been found in which the pus cells contained diplococci similar in appearance and arrangement to the gonococci of ordinary gonorrhœal pus. These cocci did not retain the stain when treated by Gram's method of staining, and they did not grow on ordinary media (agar-agar, &c.). In these respects also they behaved like the gonococcus of Neisser.

Dr. G. F. Still, who has worked at the diplococcus of posterior basic meningitis, mentioned above as being in some respects similar to the gonococcus, and who has published interesting papers on his researches, kindly investigated one of these cases of vulvitis.

In this case many diplococci were present in the pus-cells arranged like gonococci, and like them refusing to stain by Gram's method.

Dr. Still took cultures of this pus, and he has no doubt that the diplococcus present in the cells is not the *Diplococcus intra-cellularis,* since (as had been found in the other cases) it did not grow on media on which that organism flourishes.

Unfortunately, owing to the many difficulties which beset the cultivation of the gonococcus and its separation from other organisms, it has been found impossible to complete these observations by actually growing that organism from the discharges in these cases. But if a recapitulation be permitted these observations establish the following facts:

In forty-one (41) out of fifty-four (54) cases of vulval discharge in children (*i. e.* 76 per cent.) a diplococcus was present in the pus cells, which had the characters and behaved towards staining reagents exactly like the gonococcus of Neisser. This coccus, like the gonococcus, did not grow on ordinary media, and this also showed that it was neither the *Diplococcus intra-cellularis* nor the diplococcus of posterior basic meningitis. This coccus, by

its positive and negative characters, so exactly resembles the gonococcus of Neisser, that one is almost compelled to acknowledge that it is identical with it.

Culture experiments.—Since making these observations the writer has come across recent records of two series of culture experiments by independent observers, which leave no doubt in his mind that the coccus which he has found in forty-one of his cases of "vulvitis" is the gonococcus of Neisser.

Berggrün investigated fifteen (15) cases of vulvitis by means both of cover-glass preparations and cultures of the pus. He was able to demonstrate the presence of Neisser's gonococcus in ten (10) of these cases by successful cultures of that organism. In these ten cases the cover-glass preparations also showed the typical appearance of gonorrhœal pus. In five (5) of his cases he was unable to demonstrate gonococci by either method.

Veillon and Hallé investigated twenty-one (21) cases by means both of cover-glass preparations and cultures. In seventeen (17) of these twenty-one (21) cases they were able to demonstrate the presence of the gonococcus by both methods. In five (5) instances the gonococcus was the only micro-organism present in the pus.

Thus out of thirty-six (36) cases of vulvitis in children the presence of the gonococcus was demonstrated by successful cultures and characteristic cover-glass appearances twenty-seven (27) times. That is in seventy-five per cent. (75 per cent.) of cases.

These positive culture experiments, which absolutely proved that the cocci seen within the pus-cells in the cases examined were gonococci, seem sufficient to warrant the view that in the cases in which the writer and other observers have found diplococci within the pus-cells, and behaving towards staining reagents like gonococci, the disease was really of gonorrhœal origin.

Proportion of cases of vulvitis demonstrated to be of gonorrhœal origin.—Assuming this to be the case, it is found that out of fifty-four (54) cases it has been possible

to demonstrate the presence of the gonococcus forty-one (41) times; that is, in nearly 76 per cent. of cases.

Berggrün and Veillon and Hallé demonstrated the presence of the gonococcus by cultures in 75 per cent. of cases. Previous to their culture experiments the latter observers had investigated twenty-seven (27) cases by cover-glass preparations only, and had in this manner found the gonococcus twenty-five (25) times, *i. e.* in nearly 93 per cent. of cases.

If all these cases are placed together, namely, thirty-six (36) cases of Berggrün and of Veillon and Hallé by culture and cover-glass preparations, and eighty-one (81) of the writer's and of Veillon and Hallé by cover-glass preparations only, a total of one hundred and seventeen (117) is obtained, in ninety-three (93) of which the presence of the gonococcus was demonstrated in the discharge. That is that seventy-eight per cent. (78 per cent.) of these one hundred and seventeen (117) cases of vulvitis in children presented characters which, so far as is known, are peculiar to gonorrhœa.

The ages of children affected with gonorrhœal vulvitis.— With reference to the ages of the patients affected with gonorrhœal vulval discharge, an analysis of the writer's cases, together with those of Berggrün and Veillon and Hallé in which the ages are mentioned, gives the following results:

Under 1 year of age						1	case.
Between 1 and 2 years of age						4	cases.
„	2	„	3	„		8	„
„	3	„	4	„		16	„
„	4	„	5	„		10	„
„	5	„	6	„		3	„
„	6	„	7	„		5	„
„	7	„	8	„		5	„
„	8	„	9	„		8	„
„	9	„	10	„		3	„
„	10	„	11	„		1	case.

Between	11 and 12	years of age	.	2 cases.
„	12 „ 13	„	.	0 „
„	13 „ 14	„	.	2 „

The disease seems to be most common under five years of age; between five and ten it is still common; above ten it is comparatively uncommon. Thus of the above cases—

39	occurred in	children	under 5 years of age.
25	„	„	between 5 and 10 years of age.
4	„	„	over 10 years of age.

This agrees with the statements of Pott of Halle. He records that he came across eighty-six cases of gonorrhœal vulvitis in the course of twelve years, but he does not mention what methods of staining, &c., he employed in his investigations. Of his eighty-six cases he found—

Under 5 years of age	56
Between 5 and 10 years of age	23
Between 10 and 15	7

Duration of the discharge at the time of examination.—In the majority of the cases in which the writer was able to demonstrate the gonococcus in the discharges, the disease had only lasted a few days or weeks, but in one case the discharge had been present for three months. In one case (No. 19) the discharge was said to have been present for six months, but on cross-examining the child's mother there were reasons for thinking that her statements were unreliable.

Symptoms complained of by children suffering from gonorrhœal vulvitis.—With regard to the symptoms complained of and the condition of the affected parts, there do not seem to be any published observations, and remarks on this point must be confined to the writer's own cases.

Painful micturition.—Painful micturition occurred in

sixteen (*i. e.* 39 per cent.) cases, at some period or other of the disease. In five of them it has been specially noted that the condition was of very short duration.

Whether this symptom is due to a gonorrhœal urethritis, which is the most common gonorrhœal lesion in the adult female, or is caused by the urine passing over the inflamed and sensitive surface of the more external parts, seems uncertain. Both these explanations of the condition are obviously possible, but in favour of the latter supposition is the fact, above mentioned, that in five of the cases its duration was only a few hours, or a day or two at most, which one would think could hardly have been the case if a true urethritis had existed.

In several instances also it was ascertained on carefully cross-examining the mother of the patient, that painful micturition had only been complained of when the external genitals looked red and irritable, and that this occurred when the parts were not frequently washed. In these cases the symptoms seemed to depend on the condition of the external parts.

Pruritus vulvæ.—Pruritus vulvæ was also present in sixteen (*i. e.* 39 per cent.) cases. Sometimes the child complains of it, at other times the mother notices that the little patient is constantly scratching the external genitals. It is no doubt due to this scratching of the parts that some of the cases of ophthalmia occur, the infective material being conveyed to the eye by a contaminated finger.

Characters of the discharge.—In nearly all the gonorrhœal cases the pus was thick in consistence, and tended to harden into yellow crusts on the external genitals if allowed to dry in that situation. In only three instances has it been noted that the pus was thin. In two of these cases the discharge had only lasted a few days, in the third it was said to have lasted six months.

Condition of the external genitals.—In five cases swelling of the parts was noticed at the time of examination, but in a considerable number the parents stated that it

had been present at the onset of the disease. Redness of the hymen and nymphæ has been noted twenty-two (22) times, but in several other cases it was stated that, together with swelling, this condition had been present at the commencement of the attack. It seems, therefore, that a certain amount of redness and swelling of the external genitals is the rule at the onset of this disease, and that the duration of these conditions, to a considerable extent, depends upon whether the child is kept clean or not.

Ulceration.—Only in one instance has any ulceration of the external genitals been noted (Case 16). The patient was eight years of age, and the discharge was said to have lasted three months, and was very scanty in amount. There were numerous small, shallow ulcers on the inner surface of the nymphæ, but there was neither redness nor swelling of the parts. Painful micturition was present in this case. Under treatment the ulcers rapidly healed, and the child soon ceased to attend the hospital.

Redness of the orifices of the vulvo-vaginal ducts.—Unfortunately the writer's attention has only been called comparatively recently to the importance placed by some observers on the bright red condition of the orifices of the vulvo-vaginal ducts, as a sign of gonorrhœa present or past in the adult female. Since this condition has been looked for, it has been found in several cases of gonorrhœal vulvitis in children, but they are too few to be of any value in estimating its frequency.

Swelling of the inguinal glands.—The inguinal glands are not often enlarged in this condition. In several instances they seemed to be somewhat larger than normal, but the increase in size was not sufficiently marked to allow of a positive opinion upon the point. In only one case was there undoubted enlargement of these glands (Case No. 10). The child was eight years of age, and the discharge was said to have lasted three months. Soon afterwards this patient developed typical

symptoms of secondary syphilis, and it was then found that she had been outraged by her half-brother, aged tweny-five years, who was at the time being treated at the West London Hospital for both gonorrhœa and syphilis.

Parts involved in the inflammatory process.—Koplik considers that in these cases of gonorrhœa in children the vagina and cervix are frequently involved in the disease. He says: "When the patient cries, or if the perinæum is pressed upwards, a drop of pus exudes from the vagina. If a urethral speculum be passed into the vagina, and light is thrown into the same by means of a head mirror, it is seen to be the seat of an intense inflammation . . . . the cervix uteri is reddened and bathed in pus, and in the opening of the cervix we find a drop of pus."

Welling of pus from the vagina.—The writer has not used a speculum, but by means of pressure with a finger in the rectum he has only been able to satisfy himself that pus welled up from the vagina in four of his cases. He has noticed that when pus wells up from the vagina the cases are apt to be stubborn and resist treatment, whilst, as a rule, these cases quickly get well if carefully attended to. Moreover, if infection of the cervix were the rule, as Koplik thinks, one would expect to find salpingitis and perimetritis more frequent complications than they actually are. Cervical infection is acknowledged to be very common in adult females suffering from gonorrhœa, and in such cases inflammation of the tubes and pelvic peritoneum is by no means uncommon.

Complications of vulvitis.—Ophthalmia.—Ophthalmia appears to be the most frequent complication, whilst peritonitis and arthritis both occur but are rare.

Peritonitis.—Huber records a fatal case of peritonitis in a child aged seven years. The disease had spread along the right Fallopian tube to the peritoneum. Other cases of this complication are recorded by Hatfield

(child aged five years), Caillé (child aged five months), and Lovén (child aged five years).

Arthritis.—Of arthritis associated with vulvitis in children the following cases are recorded:

Koplik (two cases aged five and three years respectively). Several joints were affected. Gonococci were demonstrated in the vulval discharges.

Hartley (a child aged five years). There were gonococci in the discharges of the child and of the child's mother. The child's ankle was swollen, and the fluid from the joint contained gonococci.

Goldenberg (a child aged two years). Several joints involved.

Other micro-organisms besides gonococci generally found in the discharges but not always.—With regard to the bacteriology of vulvitis in children, it may be mentioned that in the majority of cases other microbes are found associated with the gonococcus in the discharges, but in some instances the gonococcus is the only organism present in the pus. Thus Veillon and Hallé obtained pure cultures of the gonococcus five (5) times in seventeen cases of vulvitis.

Thread-worms in the rectum.—It may be of interest to state here that, of the fifty-four cases of vulval discharge that the writer has investigated, in only two was there undoubted evidence that the children were suffering from thread-worms. One of these cases was gonorrhœal in origin, the other was not (Case No. 6, Series I, and Case No. 4, Series III).

Method of infection.—As regards the manner in which little girls become infected with gonorrhœa much still remains obscure. Children are, no doubt, occasionally violated by men suffering from gonorrhœa, who think that by so doing they will cure themselves of the disease. In such cases penetration does not occur and the child shows little sign of injury. In this way, as has already been stated, the half-brother of one of the writer's patients infected her with both gonorrhœa and syphilis.

In another case the child stated that a man had outraged her. This method of infection appears to be exceptional; at any rate in the majority of cases the evidence on this point is negative.

It seems probable that the disease is often conveyed from mother to child or from one child to another by the use of the same chamber utensil. This method of infection was suggested to the writer by the mother of two little girls who both suffered from gonorrhœal vulvitis, and it is also mentioned by one or two writers on the subject.

In one of the writer's cases, the mother of the patient had typical gonorrhœa, and she stated that her child used the same chamber utensil that she did.

In several cases the mother of the child asked whether the child's father could possibly have infected her, as he suffered from a urethral discharge. If the child's father suffers from gonorrhœa it is highly improbable that he will fail to infect his wife, and she may then convey the disease to her child in the way just suggested.

In four of the cases recorded by Berggrün and Veillon and Hallé the mother of the patient suffered from gonorrhœa. In this way also the disease may be disseminated in schools. If the genitals of children are washed with sponges, &c. that have been contaminated with gonorrhœal discharge, no doubt the children may be infected. The gonococcus is, however, very sensitive to changes of temperature, and unless the sponge or cloth is carried without delay from one to the other, the cocci probably perish before they reach the genitals of the healthy child.

That gonorrhœa may be the result of contact of the vulva with a contaminated finger seems probable. It was said to have occurred in this way in one of the writer's cases (No. 36, Series I).

Atkinson records an epidemic of vulvitis that arose in a charitable institution in Baltimore. Six children whose ages varied from five to twelve years were affected.

They all slept in the same dormitory. On the method of infection he remarks: "Close questioning elicited the information that during the night the girls would creep occasionally into bed with each other, and some of the children confessed that some of the larger girls were in the habit of titillating the genitals of the smaller ones with their fingers, buttons, sticks, &c."

Mothers of children suffering from a vulval discharge are notoriously suspicious that their children have been outraged. Most children suffering from a vulval discharge have been infected from a gonorrhœal source, but if the writer's views are correct, very few of such children have been outraged. This is a point that deserves further investigation from its important medico-legal bearing.

Treatment and prognosis.—In the writer's experience most cases rapidly get well if the parts are kept clean and bathed frequently with an antiseptic—at any rate, they soon cease to attend the hospital. The most troublesome cases are those in which pus wells up from the vagina when the child cries, or when a finger is passed into the rectum and then pressed forwards.

In these cases careful syringing of the vagina with an antiseptic has been advised, but it has been found that few of the parents performed this satisfactorily.

Cases in which gonococci could not be demonstrated in the discharges.—In thirteen (13) of his fifty-four (54) cases the writer was unable to satisfy himself that gonococci were present in the discharges.

In nine (9) of these cases the discharge contained pus cells, whilst in four (4) of them it was impossible to find any pus cells.

Cases in which the discharge contained pus cells but no gonococci.—In the majority of cases the discharge was of long standing.

In three instances it has been specially noted that the pus-cells were very few in number. In the other six cases the pus-cells were numerous. In all the cases

there were many micro-organisms of different sorts present in the discharge.

A reference to the table (Series II) will show that in six instances the discharge was of long standing, varying in duration from eight months to two years.

Three cases had been under treatment before the discharge was examined. Whether some or all of these were really of gonorrhœal origin it would be unwise to speculate, but it seems to be possible. The demonstration of the gonococcus in a discharge of undoubted gonorrhœal origin, which has existed for some months, is often difficult or impossible. Three of these children had been treated with antiseptic lotions for some time before the discharges were examined, and it is possible that this treatment may have destroyed gonococci which had previously been present, or at any rate may have rendered their detection impossible. This possibility is illustrated by one of the writer's gonorrhœal cases (Case No. 7, Series I).

This child had purulent conjunctivitis of the right eye, the left eye being healthy, and was an in-patient at the West London Hospital under the care of Mr. Percy Dunn. Gonococci were never detected in the pus from the eye, this eye having been treated for some time before the discharge was examined. The vulval discharge had also been treated, and was very scanty in amount, and the first attempt resulted in failure to find the gonococcus in it. Orders were given that no antiseptic should be used for a day or two. The discharge became more profuse, and there was then no difficulty in detecting many gonococci in the pus-cells.

Then again in Case No. 9, Series II, the disease seems evidently to have been contracted from Case No. 8, Series II, the child's sister, showing that the discharge had been infectious, although at the time when the cases were first seen, many months after the onset of the disease, it was impossible to discover the presence of the gonococcus in it.

Several writers on the subject consider that besides

the gonorrhœal vulvitis there is a class of cases in which although the discharge is infectious it is not of gonorrhœal origin.

On this point the writer does not feel himself competent to offer an opinion. It is true that Veillon and Hallé and also Berggrün failed to find gonococci by successful cultures in certain of their cases, but this by no means proves that the disease was not really of gonorrhœal origin in those cases.

What has been said with reference to the difficulty of finding gonococci in discharges of long duration, or which have been treated by antiseptics by means of cover-glass preparations, would also apply to culture experiments. The above-named observers do not state how long the discharge had lasted in the cases in which they were unable to find gonococci. The writer would therefore prefer, in our present state of knowledge, to classify cases of purulent vulval discharge in children into (*a*) those in which the gonococcus can be demonstrated, and (*b*) those in which the gonococcus cannot be demonstrated, offering no definite opinion as to the relationship that this latter class of cases may bear to the gonococcus of Neisser.

A glance at the table (Series II) will show that painful micturition and pruritus vulvæ are not uncommonly present in this second class of cases.

Cases in which the discharge contained no pus-cells at the time of examination.—In four of the fifty-four cases examined (*i. e.* 7·4 per cent.) the discharge contained no pus-cells at the time of examination, and it was composed of mucus, large squamous epithelial cells, and numerous micro-organisms of various sorts. In some cases enormous numbers of squamous cells were present. The specimen under the microscope and the micro-photograph passed round shows this sort of discharge.

The writer has found similar appearances on examining the vaginal discharge of adults who complained of "whites," and he is inclined to think that the pathology of these two conditions is very similar. We know that

young girls after the age of puberty, who have never been exposed to gonorrhœal infection, not infrequently suffer from so-called "whites," especially if they are anæmic and out of sorts; and it is possible that the same thing occurs in younger children, though less commonly.

In all the cases in which the discharge presented the above described appearance, it was scanty in amount. In three instances it was thin, in one it was thick.

In one case it was said to have existed since birth. Possibly this case is allied to those cases in which a child, a few days after birth, is found to have a mucous discharge tinged with blood. These cases are not numerous, but one hears of them occasionally. This subject has been fully treated by our president, Dr. Cullingworth, elsewhere, and nothing further will be said about it.

In two of the other cases the discharge had occurred from time to time during a period of two years.

The writer recently saw a child aged nine years, who was stated to have suffered from time to time with a discharge sufficient in quantity to stain her clothing. It was white, and only lasted a few hours or days at a time. No symptoms were complained of. This child was pale and delicate-looking, but although she was examined on several occasions it was never possible to discover any discharge. Probably this was a case similar to those which we are describing.

None of the four children who presented this non-purulent discharge suffered from painful micturition, but pruritus vulvæ was complained of in two instances.

To sum up: an investigation of fifty-four cases of so-called vulvitis in children seemed to show that in forty-one instances the condition was gonorrhœal in origin; in nine instances the discharge contained pus-cells, but no gonococci were demonstrated; in four instances the discharge contained no pus-cells.

All the bacteriological observations recorded in this paper were conducted at the laboratory of the Royal Colleges of Physicians and Surgeons, and the writer is

indebted to the Council for permission to publish the results.

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SERIES I.—*Cases in which the discharg*

No.	Age.	Duration.	Painful micturition.	Pruritus vulvæ.	Other children in house with discharge.	Worms.	Characters of discharge.
Sisters 1	2½ years	6 weeks					
Sisters 2	4 „	4 „					
Sisters 3	6 „	3 „	No	Yes	Yes	No	Thick, profuse
Sisters 4	8 „	3 „					
5	3 „	6 „	Yes (transitory)	No	No	„	„
6	3 „	1 week	„	Yes	„	Yes (thread)	„
7	4 „	?	No	No	„	No	„
8	8 „	2 weeks	„	„	„	„	Thick, scanty
9	1½ „	11 days	„	„	Yes (a sister)	„	Thick, profuse
10	8 „	3 months	Yes	Yes	No	„	„
11	4 „	10 days	No	No	„	„	„
12	4 „	2 weeks	Yes	„	„	„	„
13	4 „	1 week	No	„	„	„	Thin, profuse
14	3½ „	3 weeks	Yes	„	„	„	Thick, profuse
15	1½ „	1 week	No	„	„	„	Thick, scanty
16	8 „	3 months (?)	Yes	„	„	„	Thick, very scanty
17	6 „	2 days	No	„	„	„	Thick, profuse
18	3 „	7 weeks	„	„	„	„	„
19	5½ „	6 months (?)	„	„	„	„	Thin, scanty
20	7½ „	1 day	„	„	„	„	Thick, profuse
21	2½ „	4 weeks	Yes (transitory)	Yes	„	„	„
22	2½ „	4 „	Yes	„	„	„	„
23	9 „	5 days	„	„	„	„	Thick, scanty
24	6 „	4 „	No	No	„	„	„
25	5 „	7 „	Yes	„	„	„	Thick, profuse
26	6 „	5 weeks	Yes (transitory)	„	„	„	Thick, scanty
27	3 „	3 „	No	„	„	„	Thick, profuse
28	2 „	5 days	Yes (transitory)	„	„	„	Thin, profuse

ained pus and cocci similar to gonococci.

lling of rts.	Redness of parts.	Ulceration of parts.	Welling up of pus from vagina.	Remarks.
No	No	No	No	
Yes sitory)	Yes (transitory)	,,	,,	Said to have been outraged by a man.
No	No	,,	,,	
,,	,,	,,	,,	In hospital with conjunctivitis of right eye.
Yes sitory)	,,	,,	,,	
Yes	Yes	,,	Yes	Mother wishes to know whether children could have got discharge from their father. He has had discharge some time.
,,	,,	,,	No	Child also developed syphilis. Had been outraged by her half-brother.
No	,,	,,	,,	
,,	,,	,,	,,	
,,	Yes (slight)	,,	,,	
,,	No	,,	,,	
,,	,,	,,	,,	
,,	,,	Numerous small, shallow ulcers	,,	
,,	,,	No	Yes	Child's father has urethral discharge.
,,	,,	,,	No	
,,	Yes (slight)	,,	,,	
,,	,,	,,	,,	
,,	,,	,,	,,	
Yes	Yes	,,	,,	
No	,,	,,	,,	
,,	,,	,,	,,	
,,	Yes (slight)	,,	,,	
,,	,,	,,	,,	
,,	Yes	,,	,,	
,,	,,	,,	,,	

No.	Age.	Duration.	Painful micturition.	Pruritus vulvæ.	Other children in house with discharge.	Worms.	Characters of discharge.
29	9 years	3 days	No	No	No	No	Thick, profuse
30	4 „	3 weeks	„	„	„	„	„
31	3 „	10 days	„	„	„	„	„
32	9 „	6 „	„	„	„	„	„
33	3 years	3 weeks	Yes	Yes	„	„	„
34	8½ „	6 days	„	„	„	„	„
35	3½ „	7 „	No	No	Yes	„	„
36	10 „	7 „	Yes	Yes	No	„	„
37	1½ „	2 months	„	No	„	„	Thick, scanty
38	4½ „	1 day	No	Yes	„	„	Thick, profuse
39	7 „	?	„	„	„	„	Thick, scanty
40	3½ „	2 months	„	„	„	„	Thick, profuse
41	3 „	2 weeks	Yes	„	„	„	Thick, scanty

SERIES II.—*Cases in which the discharg*

1	12 years	2 months	Yes (transitory)	No	No	No	Very scanty
2	1½ „	?	No	„	„	„	Thick, profuse
3	2 „	8 months	Yes	Yes	„	„	Thin, scanty
4	3½ „	12 „	„	No	„	„	Thick, profuse
5	4 „	2 weeks	No	Yes	„	„	„
6	5 „	2 years	Yes	„	„	„	„
7	8 „	12 months	No	„	„	„	„
Sisters 8	7 „	2 years	Yes (transitory)	No	Yes	„	Very scanty
Sisters 9	4 „	Some months	Yes	Yes			

SERIES III.—*Cases in which*

1	3½ „	3 weeks	No	Yes	No	No	Very scanty
2	3 „	2 years	„	No	„	„	Thin, scanty
3	2 months	Since birth	?	„	„	„	„
4	4½ years	2 years	No	Yes	„	Yes (thread)	Thick, scanty

velling of parts.	Redness of parts.	Ulceration of parts.	Welling up of pus from vagina.	Remarks.
No	Yes	No	No	
,,	,,	,,	,,	
,,	,,	,,	,,	A girl, æt. 20, in same house has vaginal discharge.
,,	,,	,,	,,	
Yes	Yes	,,	,,	
,,	,,	,,	,,	
No	,,	,,	,,	
,,	No	,,	Yes	Child says a man "put his finger in her privates" a day or two before the discharge came on.
ormerly, not now	Formerly	,,	No	Said to have prolapse of rectum.
No	No	,,	,,	
,,	,,	,,	,,	
ormerly	Formerly	,,	Yes	
No	No	,,	,,	Mother has gonorrhœa, and she and the patient use the same chamber utensil.

ntained pus but no gonococci.

No	No	No	No	Child has been under treatment for some weeks.
Yes	Yes	,,	,,	
No	,,	,,	,,	
,,	,,	,,	,,	Chiefly squamous cells; a few pus cells.
Yes	,,	,,	,,	Pus cells very scanty.
No	,,	,,	,,	Pus cells scanty.
,,	No	,,	,,	
,,	,,	,,	,,	Both children have been under treatment for some time. Pus scanty; squamous cells numerous.

charge contained no pus cells.

No	Yes	No	No	A few epithelial cells and many cocci in discharge.
,,	Slight	,,	,,	Many epithelial cells and microbes.
,,	No	,,	,,	Many epithelial cells.
,,	Yes	,,	,,	

Dr. Handfield-Jones, while fully recognising the high scientific value of the paper, could not accept the author's conclusions in their entirety, and found it difficult to believe that over 70 per cent. of all vulvular discharges in children depended on gonorrhœal infection. Looking at the clinical aspect of these cases, the following points seemed to him to render the gonorrhœal theory of doubtful probability: (1) The disease did not usually spread to the neighbouring tissues in the manner so well known in ordinary gonorrhœal infection; (2) the disease was much more readily cured by simple tonics and cleanliness than is usual in cases of gonorrhœa; (3) the inguinal glands were rarely enlarged; (4) the disease was common in delicate, town-bred children, and rare in robust, country ones; (5) in cases of rape, when the adult male was known to have ordinary gonorrhœal urethritis, the disease in the child ran a much more severe course than is found in the ordinary cases of vulvitis. As regards the microscopical evidence, Dr. Handfield-Jones thought that the difficulty of diagnosing the gonococcus with certainty added greatly to the difficulty of arriving at a certain conclusion regarding the true nature of the disease.

Dr. Boxall said that it seemed to him remarkable that if the whole series of forty-one cases are to be regarded as gonorrhœal, one only should have shown evidence of conjunctivitis. This is accentuated by the fact that the series is comprised entirely of young girls, in about one third of whom pruritus of the vulva was a prominent symptom. This comparative immunity from ophthalmia and other clinical features tends to outweigh the bacteriological evidence in favour of gonorrhœa.

Dr. Snell said that he had seen several cases of vulvitis in children occurring in families where in all probability there was no possibility of gonorrhœal infection. He had noticed that the subjects of the complaint were usually weakly, but the complaint itself was easily and quickly cured.

Dr. Amand Routh congratulated the author on his scientific caution in stating that the cocci found in forty-one out of his fifty-six cases were similar to gonococci. Such a large number, if really gonorrhœal in origin, was out of all proportion to the cases usually considered to be gonorrhœal in infantile vulvitis, and he thought that it would be found that, though at present indistinguishable from the gonococci of Neisser, these diplococci were not really identical. He believed that most of the rare cases of infantile vaginitis, associated with these cases of vulvitis, were caused by infection of the vagina by incautious examinations, and he urged that scrupulous disinfection of the vulva should be made so as to avoid infecting the mucous membrane above the natural anatomical barrier of the hymen.

The President said that Dr. Robinson's paper was important not only from the scientific, but from the practical, medico-legal

standpoint. He would like to ask Dr. Robinson whether he considered the microscope alone was sufficient to establish the identification of the gonococcus, and whether, in his own cases, he had confirmed his diagnosis by culture experiments. He called attention to a paper published in 1859 by the late Sir William Wilde, of Dublin, on some medico-legal aspects of purulent vaginal discharges in children.* In that paper the author expressed his belief that many persons had been wrongly accused of and punished for assaults that they had never committed. He noticed that in Dr. Robinson's cases pain on micturition was recorded as a common symptom, and asked whether this might not be accounted for by the inflamed and tender state of the vulva, without taking for granted that urethritis must have been present. Urethritis was not an essential feature in acute gonorrhœa in the female. In reference to what had fallen from Dr. Handfield-Jones, he (the President) could not agree in regarding it as remarkable that vaginitis was not met with more frequently, for it was well known that vaginitis was comparatively rare in the gonorrhœa of the adult female. So far from being the most prominent and frequent symptom of the affection, it was probably the least common, the parts most frequently affected being the vulva and the cervix uteri. He congratulated Dr. Robinson on a piece of excellent work, the account of which would enrich the Society's 'Transactions.'

Mr. Drummond Robinson, in reply, stated that he had mentioned several points in his paper which had been alluded to by those who had joined in the discussion. He did not think that the fact that in most cases vulvitis in children was not complicated with vaginitis was any argument against the gonorrhœal nature of such cases, for gonorrhœal vaginitis was uncommon in the adult also. He did not agree with Dr. Handfield-Jones that most children suffering from vulvitis were weak and sickly; on the contrary, they were generally in excellent health. That enlargement of the inguinal glands was unusual, and that simple measures generally sufficed to effect a cure, showed that the disease in children differed from that in adults. He did not base his views that 76 per cent. of cases of vulvitis in children were gonorrhœal in origin on the clinical aspects of the cases, but on the results of bacteriological investigation. No one could have been more surprised at the results of these observations than he was himself.

* Wilde (Sir William), "Medico-legal Observations upon the Case of Amos Greenwood," 'Dublin Quarterly Journal of Medical Science,' vol. xxvii, 1859; also 'Medical Times and Gazette,' 1859, pp. 361, 417, 442, 518, 544, 638.

ANNUAL MEETING.

February 1st, 1899.

C. J. Cullingworth, M.D., President, in the Chair.

Present—49 Fellows and 3 visitors.

A volume of its 'Reports' was presented by the St. Thomas's Hospital Staff.

John Shields Fairbairn, M.B., B.Ch.Oxon.; Henry Gervis, M.A., M.B.; John Preston Maxwell, M.B., F.R.C.S.; and Arthur Scott Turner, M.R.C.S., were admitted Fellows of the Society.

The following gentlemen were proposed for election:—Francis Arthur Osborn, L.R.C.P.Lond. (Dover); Harry Jackson Watson (Toronto); David Charles Rayner, F.R.C.S.Eng. (Bristol).

The following gentlemen were elected Fellows of the Society:—William Josiah Smyly, M.D. (Dublin); Walter Andrew Bowring, F.R.C.S.Eng. (Brighton).

A GENUINE CASE OF TUBO-OVARIAN ABSCESS.

Shown by C. J. Cullingworth, M.D.

Dr. Cullingworth said that many of the specimens that had been labelled tubo-ovarian abscess had proved,

on further examination and in the light of more recent knowledge, to be merely a special variety of pyosalpinx, in which there was a sudden and extensive dilatation of the outer end of the closed Fallopian tube. The present specimen was a genuine example of tubo-ovarian abscess, in which there was an aperture of communication between a suppurating Fallopian tube and a suppurating ovarian cyst. The chief interest of the specimen lay in the fact that the aperture of communication occurred, not as is usually the case at the abdominal ostium of the tube, but in the tube wall, at a distance of about half an inch from the fimbriated extremity. The reason of this was that the fimbriated end of the tube had become adherent to the lateral wall of the pelvis, not to the ovary, so that when the pyosalpinx burst into the adherent cyst of the ovary it did so by means of a perforating ulcer of the tube wall. In his experience this was a very rare condition. The facts of the case were as follows: The patient, a woman thirty years of age, had been married eight years, and had borne three children, the last of whom was three years and ten months old. Two years and nine months before operation she had been attended for an attack of acute gonorrhœa caught from her husband. During that attendance she was seized with pelvic inflammation, for which she was confined to bed for three weeks. She had never been well since, having been constantly liable to severe pains in the lower part of the abdomen, which remained persistently tender. These pains became markedly worse in the spring of 1898, after wearing a pessary ordered for her on account of an alleged displacement by Mrs. Longshore Potts, M.D., an itinerant lecturer.

During the seven weeks immediately preceding the operation she had been obliged to lie in bed almost entirely. On December 21st, 1898, the uterus was found to be fixed. The right posterior fossa of the pelvis was occupied by a fixed, tender, irregular swelling, equal in size to an orange, slightly depressing the vaginal roof.

No swelling could be detected in Douglas's pouch or in the left posterior fossa. The evening temperature was 100·4°.

On December 22nd abdominal section was performed. The uterus was somewhat thickened, and displaced forwards and to the left by a large fixed globular swelling situated behind the right broad ligament. The swelling was adherent to the uterus and to the broad ligament, which was drawn over it like a hood. There were no adhesions behind or above, but beneath the swelling and to the outer side the adhesions were very firm, especially at one spot just beneath the pelvic brim on the right lateral wall of the pelvis, where the fimbriated end of the right Fallopian tube had become attached. A number of tough bands passed backwards from the right border of the uterus to the posterior pelvic wall. In separating the adhesions the dense adhesion to the lateral pelvic wall was purposely left to the last. On separating this a small quantity of thick, yellow, offensive pus welled up. The swelling was quickly lifted out of the pelvis, the broad ligament clamped, and the mass cut off above the clamps and removed. The broad ligament was then transfixed below the clamps and tied as the clamps were removed. The left appendages were found normal but matted from adhesions. The adhesions were separated and the parts left *in situ*. The pelvis was well cleansed with gauze sponges, especially at the site of densest adhesion, where there was some inflammatory lymph mixed with a few drops of purulent exudation. The abdomen was then closed by silkworm-gut sutures, the edges of the aponeurosis being united by a buried continuous suture of catgut. The patient made an uninterrupted recovery, the temperature during convalescence on no single occasion reaching as high as 100° Fahr.

Description of parts removed.—The partially collapsed tumour measured 3 × 2¼ inches. It consisted of right tube and ovary. The thickening of the tube was incon-

siderable at the uterine end, but increased as it passed outwards. The tube was tortuous in its middle portion, and its outer part was flattened out on the cyst. The fimbriated end was easily recognised; it was patulous, but had obviously been closed by adhesion when *in situ*. The tube was about four and a half inches long, and contained a little thick greenish-yellow offensive pus; it was not anywhere dilated to a diameter exceeding half an inch. There was no rent in the wall of the globular thick-walled cyst, which formed the main part of the mass removed, and it was evident that the pus which had welled up during the last steps of the operation had issued from the separated abdominal ostium of the Fallopian tube. On laying open the cyst, it was found to be lined by granulation tissue and to be filled with thick greenish-yellow offensive pus of precisely the same character as that in the tube. It was obviously a cyst of the right ovary. The cyst communicated with the tube by a small smooth-walled aperture, equal in size to a goose-quill. The opening in the tube was in its wall, about half an inch from the abdominal ostium.

It seemed most probable that a pyosalpinx had become adherent to a small ovarian cyst, and that a perforating ulcer had been formed some time ago, permitting the escape of the contents of the tube into the cyst, with the result of setting up suppuration within the cyst, and causing the distension of the tube to disappear. The specimen was therefore a good example of tubo-ovarian abscess.

Annual Meeting.

The audited balance-sheet of the Treasurer (Dr. Watt Black) was read.

BALANCE-SHEET OF THE OBSTETRICAL SOCIETY

(*Abstract of the Receipts and Expenditure for the year ending December 31st, 1898.*)

1898. RECEIPTS.	£	s.	d.
To balance from 1897	235	12	7
„ (1) 500 ANNUAL SUBSCRIPTIONS, realising	525	0	0
„ (2) COMPOSITION FEES	54	12	0
„ (3) MIDWIVES' EXAMINATION FEES AND CERTIFICATE (for 4 Examinations—April, July, Oct., 1898, and Jan., 1899)	752	1	0
„ (4) SALE OF 'TRANSACTIONS'			
(Longmans) £72 8 7			
Do. do. (Society) 11 10 4			
Do. Midwives' Questions, and Rules 0 13 10			
Do. Dr. Champneys' Pamphlet 0 12 6			
Do. Midwives' Regulations 0 2 5—	85	7	8
„ (5) INTEREST on Consols 55 16 8			
Ditto on Deposit 11 16 7—	67	13	3
Amount of Stock, 2¾ per Cent. Consols, standing in the names of the Trustees £2100 0 0			
On Deposit 400 0 0			
	£1720	6	6

Audited and found correct, February 1st, 1899.

(*Signed*) H. CAMPBELL POPE.
EWEN J. MACLEAN.
HENRY HUXLEY.
JOHN PHILLIPS.
HERBERT R. SPENCER.
CHARLES J. CULLINGWORTH.

1898. EXPENDITURE.	£	s.	d.
By (1) 'TRANSACTIONS,' VOL. XXXIX, Printing, Paper, Binding, Delivery, Engraving, Illustrations, &c.	280	13	0
„ (2) LIBRARY:			
Books purchased £42 10 1			
Binding 18 3 10—	60	13	1
„ (3) MUSEUM AND LIBRARY:			
Rent (5 Quarters) 250 0 0			
Salary of Librarian 140 0 0			
Repairs to Furniture, Cleaning, Coals, &c. 40 8 7—	430	8	7
„ (4) EXPENSES OF MEETINGS	21	17	3
„ (5) STATIONERY, STAMPS, AND PRINTING	40	5	8
„ (6) EXAMINATION OF MIDWIVES:			
Fees paid to Examiners 338 7 6			
General Expenses 77 16 8—	416	4	2
„ (7) EXTRAORDINARY EXPENSES:			
Legal 1 16 0			
Issue of Regulations 3 0 0—	4	16	0
„ (8) BANKING EXPENSES:			
Stamps and Commission on Cheques	0	5	8
„ (9) BALANCE as per Pass Book 221 14 1			
Less £1 overpaid to Bank 1 0 0—	220	14	1
On Deposit	250	0	0
	1725	17	6
Two Subscriptions twice credited by Bank	2	2	0
	1727	19	6
Less Cheque for £7 13*s.* not presented	7	13	0
	£1720	6	6

Mr. Gandy said he felt the Fellows should be congratulated on the excellent financial position shown in the report, and considered this mainly due to the able administration of the Honorary Treasurer, to whom the best thanks of the Society should be accorded.

It was proposed by Dr. Griffith, seconded by Mr. Gandy, and carried unanimously—"That the audited report of the Treasurer just read be received, adopted, and printed in the next volume of the 'Transactions.'"

The report of the Honorary Librarian (Dr. Amand Routh) was then read.

Report of the Honorary Librarian.

In presenting this report I am glad to be able to testify to the continued use made of the Library by the Fellows of the Society, both by those who wish to consult expensive or rare publications, and those who wish to see the latest editions or current journals of the medical world. About 680 visits have been paid by Fellows to the Library during the year.

All available works published in English, French, or German are considered by the Library Committee, and any which are likely to be permanently valuable to the Library, as well as new editions of old books where fresh information of importance has been added, are purchased. In addition to books purchased, 63 volumes and 13 volumes of bound pamphlets have been presented by their authors during the Session 1898–9, in many cases accompanied by letters testifying to the value which the donors attach to the Library of the Society. The total number of books in the Library is now 5317.

There is no doubt that the Society's Library is the most complete one of its special kind in London, and that it is suited both to the teacher and the practitioner; and the Council would gladly see its usefulness still more appreciated by its Fellows, and especially wish it to be known that Fellows can borrow any book in the Library,

or any except the current number of periodicals, for study at home. Four books at a time may be borrowed by Fellows.

The Annual 'Transactions' of the Society are sent to, and in most cases exchanged with, sixty-one British and Foreign Universities, Colleges, Societies, Libraries, and Journals. A complete list of these is appended.

AMAND ROUTH, M.D.,
Hon. Librarian.

Colleges.—Royal College of Physicians. Royal College of Surgeons. Royal College of Surgeons in Ireland. University College.

Academies.—Académie de Médecine de Paris. New York Academy of Medicine.

Societies.—American Gynecological Society. Bristol Medico-Chirurgical Society. Det Kjobenhavnske Medicinske Selskabs. Edinburgh Obstetrical Society. Medical Society of London. Royal Medical and Chirurgical Society. Société belge de Gynécologie et d'Obstétrique. Société d'Obstétrique de Paris. Société Obstétricale et Gynécologique de Paris.

Libraries.—British Medical Association Library. Charing Cross Hospital Library. Devon and Exeter Hospital Library. Guy's Hospital Library. Johns Hopkins Hospital Library. King's College Hospital Library. London Hospital Library. Melbourne Lying-in Hospital Library. Melbourne University Library. Middlesex Hospital Library. Radcliffe Library. St. Bartholomew's Hospital Library. St. George's Hospital Library. St. Mary's Hospital Library. St. Thomas's Hospital Library. Westminster Hospital Library.

Journals.—'American Gynecological and Obstetrical Journal.' 'American Journal of the Medical Sciences.' 'Annales de Gynécologie et d'Obstétrique.' 'Annali di Ostetricia e Ginecologia.' 'Annals of Gynæcology and Pædiatry.' 'Archives générales de Médecine.' 'Archivio

di Ostetricia e Ginecologia.' 'Boston Medical and Surgical Journal.' 'Centralblatt für Gynäkologie.' 'Dublin Journal of Medical Science.' 'Edinburgh Medical Journal.' 'Gazette des Hôpitaux.' 'Gazette Médicale de Paris.' 'Glasgow Medical Journal.' 'Journal d'Accouchements.' 'Journal de Médecine.' 'Lancet.' 'Le Progrès Médical.' 'L'Obstétrique et la Gynécologie.' 'Medical Chronicle.' 'Medical News' (New York). 'Medical Press and Circular.' 'Monatsschrift für Geburtshülfe und Gynäkologie.' 'New York Medical Journal.' 'Revue de Gynécologie et de Chirurgie Abdominale.' 'Zeitschrift für Geburtshülfe und Gynäkologie.'

Braithwaite's 'Retrospect of Medicine.' Frommel's 'Jahresbericht über Geburtshülfe und Gynäkologie.' 'Jahresbericht der Gesammten Medecin.' Schmidt's 'Jahrbücher der in- und ausländischen gesammten Medicin.'

It was moved by Dr. William Duncan, seconded by Dr. Tate, and carried unanimously—"That the report of the Hon. Librarian be received, adopted, and printed in the 'Transactions.'"

Report of the Chairman of the Board for the Examination of Midwives.

During the year 1898 the number of candidates who sought the certificate of this Society was 688; of these, 604 passed, 75 failed, and 9 were absent.

The total number on the Register at the end of 1898 was 4070.

During the past year the Board co-operated with the Council in drawing up Rules and Regulations to be observed by Midwives holding the Certificate of the Obstetrical Society of London, a copy of which Rules are published in the volume of 'Transactions' for 1898.

For nearly thirty years this Society has urged State examination and registration for midwives, and so far

back as 1873 a deputation of the Society interviewed Mr. Stansfeld on the subject.

In the absence of any State action this Society instituted examinations of its own, and has kept a register of all candidates passing the examinations.

During the first ten years the average number of candidates were 12 per annum, but since that time our certificate has been so eagerly sought by a superior class of women, that the number this last year has risen to close on 700 for the year, and the work connected with the examinations has become very heavy.

Of late years the Society has ceased to take an active part in promoting legislation on the midwives' question, though for many years it made strenuous efforts in that direction, and perhaps it is a pity that the movement should pass into other hands, but it seems that other bodies have now actively taken the matter up, and our end may be accomplished without further effort on our part.

When success comes it must be remembered that this Society filled a gap until the State stepped in and undertook duties which should not have been left so long to a voluntary body. In the face of organised opposition we have been contented to keep the matter before the legislature, and have created a public opinion which has grown year by year.

PERCY BOULTON, M.D.,
Chairman.

In moving that the Report of the Chairman of the Board for the Examination of Midwives be received, adopted, and printed in the 'Transactions,' Dr. WALTERS remarked—"That the small number of complaints received by the Council as to the conduct of their Licentiates was sufficient evidence of the care with which the duties of the Board were carried out."

This was seconded by Mr. BUTLER-SMYTHE and carried.

The ballot was then taken for the election of Honorary Fellows, and the following gentlemen were declared elected as British subjects :—Mr. Jonathan Hutchinson, F.R.S. (London), and Dr. Oldham (Bournemouth). As Foreign subjects : Professor Olshausen (Berlin) ; Professor A. E. Martin (Berlin) ; Professor Budin (Paris) ; Professor Pinard (Paris).

The following alteration in the Laws was put from the Chair and carried :

(*Present Laws.*)

CHAPTER V.

OF THE CONTRIBUTIONS OF FELLOWS.

1. Every person admitted a Fellow of the Society shall pay in advance the sum of One Guinea annually. This subscription shall become due on the first of January in each year.

2. Any Fellow whose subscription shall be more than three months in arrear shall be reminded of the same in writing ; and in the event of payment not being made, or a satisfactory answer received, before the following meeting, the fact shall be reported to the Council, who shall if they think fit direct his name to be suspended in the Library or Meeting-room. He shall not enjoy the privileges of a Fellow until the arrears are paid. If the subscription be not paid within twelve months, he shall cease to be a Fellow of the Society.

3. Fellows wishing to compound for their Annual Subscriptions may pay—On admission a Composition Fee of Fifteen Guineas ; after Ten Annual Payments, Ten Guineas ; after Twenty Annual Payments, Five Guineas.

(*Proposed Laws.*)

CHAPTER V.

OF THE CONTRIBUTIONS OF FELLOWS.

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2. Any Fellow whose subscription shall be more than three months in arrear shall be reminded of the same in writing ; and in the event of payment not being made, or a satisfactory answer received, before the following meeting, the fact shall be reported to the Council, and his name shall be suspended in the Library. He shall not enjoy the privileges of a Fellow until the arrears are paid. If the subscription be not paid within twelve months, he shall cease to be a Fellow of the Society.

3. Fellows wishing to compound for their Annual Subscriptions may pay—On admission a Composition Fee of Fifteen Guineas ; after Ten Annual Payments, Ten Guineas ; after Twenty or more Annual Payments, Five Guineas.

The PRESIDENT announced that the Officers and Council shown on the printed list as recommended by the Council were duly elected.

Officers and Council.

President.—Alban Doran, F.R.C.S.

Vice-Presidents.—John W. Byers, M.A., M.D. (Belfast); William Radford Dakin, M.D.; William Duncan, M.D.; Jamieson Boyd Hurry, M.A., M.D. (Reading).

Treasurer.—James Watt Black, M.D.

Chairman of the Board for the Examination of Midwives.—Percy Boulton, M.D.

Honorary Secretaries.—John Phillips, M.A., M.D.; Herbert R. Spencer, M.D.

Honorary Librarian.—Amand Routh, M.D.

Other Members of Council.—Augustus W. Addinsell, M.B., C.M.; John Ford Anderson, M.D.; A. H. Freeland Barbour, M.D. (Edinburgh); George Francis Blacker, M.D.; Robert Boxall, M.D.; Thomas Watts Eden, M.D.; Angus Fraser, M.D.; Arthur Edward Giles, M.D.; Thomas Crawford Hayes, M.D.; George Ernest Herman, M.B.; John Dysart McCaw, M.D.; Arthur Nicholson, M.B. (Brighton); Richard Pinhorn (Dover); William Loudon Reid, M.D. (Glasgow); Charles Hubert Roberts, M.D.; George H. Drummond Robinson, M.D.; William Japp Sinclair, M.D. (Manchester); Arthur Francis Stabb, M.B., B.C.

It was moved by Dr. Aust Lawrence, seconded by Dr. Drummond Robinson, and carried—"That the thanks of the Meeting be given to the retiring Vice-President, Dr. Galton, and to the other retiring Members of Council Drs. Des Vœux, Gandy, McCann, Pedler, Thompson, and Walters."

ANNUAL ADDRESS.

The office of Secretary in this Society is by no means a sinecure. The work is, indeed, heavier and more exacting than anyone not intimately acquainted with the official routine of the Society would suppose. But there is one duty that often appertains to the secretaryship of a Society like ours, from which our secretaries are exonerated, namely, the preparation of an annual report. It is customary in this Society for the President to present to the Fellows, at the close of each of his years of office, an account of the condition of the Society and of the work done during the year. This statement takes the place of an official report from the secretaries. Following, then, this old established custom, I have to begin by deploring a further slight falling off in our numbers. On January 1st, 1898, the total number of Fellows on our roll was 711, comprising 11 Honorary and Corresponding Fellows, and 700 ordinary Fellows. During the year we have lost 12 Fellows by death (including a death that occurred in the previous year and was accidentally overlooked), and 30 by resignation. To counterbalance these losses we are only able to report the election of 22 new Fellows. Hence the number of the roll is reduced by 19, the present total (January 1st, 1899) being 692, of which number 10 are Honorary and Corresponding Fellows, and 682 are Ordinary Fellows. This diminution in numbers ought not to be, and *would* not be if only each one of us bestirred himself ever so little in the way of beating up recruits.

I do not purpose taking up your time by going over again the ground that has already been traversed in the Reports of the Treasurer, Honorary Librarian, and

Chairman of the Board for the Examination of Midwives. I must, however, call attention to the issue by the Council during the past year of a well considered code of "Rules and Regulations to be observed by Midwives" holding our Certificate. It had long been felt to be an anomaly that there were no such rules, especially as a phrase in the declaration which every midwife who has passed the Society's examination is called upon to sign before she receives her Certificate seemed to take their existence for granted, and I regard their preparation and publication as together constituting quite the most important event that has occurred in the history of the Society during my term of office as President. It is not to be expected that they will meet with universal approval, but I think it will generally be conceded that they go a very long way towards meeting the requirements of the case. The work of drawing up these rules and considering them was undertaken by the Council and the Board for the Examination of Midwives jointly, and the Council gratefully acknowledges the valuable help rendered by the latter body. In this matter of its examination for midwives the Society continues to suffer from a certain amount of professional opprobrium, which, though entirely undeserved, yet is probably in some degree responsible for the decrease in our numbers. I am not going to argue the point on this occasion, but I should like once more to remind our professional brethren that, as I said last year, the Society undertook the work from a sense of duty, and merely as a temporary expedient "after having tried in vain to induce the Government to move in the matter; and that it will be only too glad to relinquish it whenever the State can be prevailed upon to take upon itself functions that properly belong to it, and that it alone can adequately fulfil."

In regard to its more strictly scientific work, the work for which it was called into existence, the Society is to be congratulated on an excellent record during the past year.

The papers read have been unusually numerous. Ten of them dealt with obstetrical, five with gynæcological subjects.

Obstetrical Papers.

1—3. The first three of the obstetrical papers were cases of dermoid cyst of the ovary, incarcerated in the pelvis, and obstructing labour. They formed a supplement to the important paper communicated to the Society by Dr. R. G. McKerron, of Aberdeen, in December of the previous year, on "The Obstruction of Labour by Ovarian Tumours in the Pelvis," and were read before the discussion on that paper, which had been adjourned from the previous meeting, was proceeded with. Two of the three cases were contributed by Dr. H. R. Spencer, and one by Dr. Boxall. The first of Dr. Spencer's cases occurred in a young woman, aged twenty, who had already borne one child (still-born) without difficulty. After this first confinement in June, 1896, she noticed that her abdomen was larger than it ought to be, and when she came to be in labour with her second child in July, 1897, a cystic tumour was found incarcerated in the pelvis, obstructing delivery. "As the tumour could not be pushed up, laparotomy was performed, the uterus withdrawn from the abdomen, the tumour removed and the child delivered by forceps . . . . Mother and child recovered." The tumour proved to be an ovarian dermoid.

In Dr. Spencer's second case, labour was obstructed in a patient's third confinement by a tumour that had been a source of trouble at the two previous confinements. It was found possible, under anæsthesia, to push it out of the pelvis and effect the delivery of the child by forceps. The tumour, a dermoid cyst of the left ovary, was successfully removed by abdominal section six months later.

Dr. Boxall's case illustrates a different mode of treat-

ment. A woman, aged twenty-nine, eight months pregnant of her first child, had been in labour for about twenty-one hours when Dr. Boxall was asked to see her. He found the os uteri dilated to the size of a florin, and the cavity of the pelvis occupied by a large semi-solid tumour giving the impression of an œdematous uterine fibroid. Reposition was attempted, first without and then with an anæsthetic, but prolonged efforts were avoided and the attempts were fruitless. It was, therefore, decided to perform Cæsarean section, which was done with a successful result both as regards mother and child. On examining the tumour, *after the uterus had been emptied*, it was found to be a non-adherent ovarian dermoid 4½ inches in diameter with a long pedicle. Had the discovery of the true nature of the tumour been made before the uterus was opened, the case would no doubt have been treated by removal of the tumour, closing of the abdominal wound, and delivery of the child *per vias naturales* as in the first of Dr. Spencer's cases.

The three cases formed an instructive series, and afforded material for a useful discussion.

The treatment of pregnancy and labour, complicated by the presence of tumours in the pelvis, received further illustration in the course of the past session, and I may, perhaps, be pardoned for going out of the usual course to mention here, although they did not come before the Society under the head of formal papers, some of the cases in point. At the June meeting Dr. Amand Routh exhibited a dermoid tumour of the ovary which he had removed successfully, from a patient four months pregnant of her first child, by the operation of posterior colpotomy. The pedicle was short and was reached with difficulty, some of the cyst-wall being left behind and requiring to be snipped off after the cyst had been removed. Abortion followed three weeks later. In the course of the discussion on Dr. Routh's communication, Dr. Drummond Robinson mentioned a case in which he had recently removed, by a similar operation, a dermoid

cyst of the right ovary, equal in size to a Tangerine orange, from a patient who, having missed two periods, was thought to be pregnant, but in whom the idea of pregnancy had subsequently been set aside, in consequence of the reappearance of the catamenia. A few hours after the operation a carneous mole was expelled. Mr. Doran also mentioned a case in which he had operated upon a woman in the fourth month of pregnancy for the removal of a small dermoid of the ovary. Five months later the patient was delivered of a live child at term. Mr. Doran had operated by the abdominal method, and expressed his preference for that method over the vaginal in cases of dermoids, on account of the extreme desirability of getting the tumour out entire..

At the July meeting Dr. Spencer showed a dermoid of the left ovary $4\frac{3}{4} \times 3\frac{1}{4}$ inches, removed a fortnight after delivery from a patient aged thirty-eight, who had previously borne nine children. The tumour became incarcerated about the middle of the pregnancy, and the patient was seen by Dr. Blacker and sent into hospital for treatment. Under an anæsthetic Dr. Spencer succeeded in pushing the tumour out of the pelvis. The patient left the hospital relieved of all her symptoms. She was readmitted, as a matter of precaution, a month before term. Her labour, which took place at term, was quite normal, and fifteen days after delivery the tumour was removed by abdominal section. Dr. Spencer considered that during the second half of pregnancy the risks and difficulties of operation were much greater than in the first half, and that, consequently, where the tumour could, as in this instance, be pushed up, the practice he had here adopted was generally to be preferred.

At the December meeting some further cases were brought forward in connection with this most important subject. Dr. Spencer showed a small dermoid tumour of the right ovary, which, being incarcerated in the pelvis, he had successfully removed by abdominal section at the fourth month of pregnancy. Five months later

the patient had been delivered naturally of a living child. Dr. Spencer mentioned another case, not his own, which, though equally instructive, had a less fortunate termination. A small ovarian dermoid had been incarcerated in the pelvis at the time of labour. Delivery by the forceps was attempted, and extraction was finally accomplished by version, with the result that the tumour was ruptured, and that the patient died of septic peritonitis a few days afterwards. In the course of the discussion which followed, Dr. John Phillips mentioned two cases, one in which he had successfully removed an impacted dermoid during early pregnancy, the other in which an ovarian dermoid obstructing labour was treated by vaginal incision and suturing of the cyst-wall to the edges of the vaginal wound. A year later acute symptoms supervened and it became necessary to operate, when a large dermoid cyst was found, with a coil of hair adherent to the old scar in the vagina. The patient made a good recovery.

Dr. Giles also mentioned a case of an ovarian dermoid, 3 × 1 inches, removed during pregnancy. He first saw the patient, a nullipara aged twenty-nine, when she was three months pregnant, and decided to watch the case. As the cyst did not rise out of the pelvis as pregnancy advanced, it was removed at the end of the twentieth week, by abdominal section, without interruption to the pregnancy.

I have mentioned these cases *seriatim* because they seem to me to offer points of comparison and contrast which cannot fail to be useful in guiding us in our future practice.

4. The subject of the next obstetric paper was "The Sagittal Fontanelle in the Heads of Infants at Birth." In this paper, read at the July meeting, Dr. A. W. W. Lea, of Manchester, gave the results of an examination of 500 consecutive cases at birth. He had found a well-marked sagittal fontanelle in twenty-two instances, giving a frequency of 4·4 per cent. In all these cases a well-

marked membranous space was present, the space being, in the majority of instances, lozenge-shaped and bilateral. Dr. Lea pointed out that the presence of a large sagittal fontanelle may lead to error or confusion in diagnosing the presentation, and may also be mistaken for fracture or injury. The opening usually closes within the first two months of life, and is frequently associated with deficient ossification of the posterior parts of the parietal bone.

5. At the same meeting a paper by the late Dr. George Roper was read, "On Some Difficult Cases of Fronto-anterior Positions of the Fœtal Head." The object of the paper was to demonstrate that the greater difficulty in these cases is due not so much to the position of the head as to the dorso-posterior position of the trunk. Dr. Roper expressed the opinion that, after a moderate trial with forceps, the correct mode of delivery in such cases, both in the interest of mother and child, is podalic version, and he considered it important in performing this operation that the trunk should be rotated into an abdomino-posterior position. This rotation, he says, can be readily effected by directing the child's toes towards the mother's back as the foot is brought down.

6. A successful "Case of Puerperal Septicæmia treated by the Injection of Anti-streptococcic Serum" formed the subject of a paper by Dr. J. Walters and Mr. A. R. Walters read at the October meeting. The septicæmia followed an early abortion. An injection of 10 c.c. of the serum was given on two successive days, with the result that the temperature fell on each occasion to 98°. The authors unhesitatingly attributed the patient's recovery to the use of the serum. An incidental point in the case is worthy of notice as illustrating the danger of relying upon the curette to empty the uterus without digital exploration. Although the uterus was dilated and freely curetted and subsequently swabbed with carbolic

lotion and iodine liniment, yet a few days later the remains of a macerated fœtus were passed.

7. A paper by myself was read at the October meeting, on a case in which an ectopic gestation-sac was removed by abdominal section, along with a fibro-myomatous uterus. On examination of the parts removed, Mr. Shattock and I came to the conclusion that the gestation was originally of the rare variety known as tubo-uterine, and that the fœtus had been extruded into a diverticulum of the tube. The case had presented great difficulties in the matter of diagnosis, having at one time been regarded and treated as a case of retroverted gravid uterus, and subsequently as a case of pelvic hæmatocele due to arrested tubal gestation. The specimen is now in the museum of St. Thomas's Hospital.

8 and 9. The subject of ectopic gestation received further illustration at the November meeting, when Mr. Bland Sutton read two papers, one on "Tubo-abdominal Pregnancy" and the other on "Hæmorrhage from the Fallopian Tube without evidence of Tubal Gestation." In the former paper the author related a case in which a woman, aged twenty-four, conceived in the left Fallopian tube and the pregnancy went to term. The fœtus escaped from the amnion, and at the operation was found moving about freely amongst the intestines, alive and tethered merely by the umbilical cord. The placenta was removed without difficulty and the mother recovered. The child lived only three hours.

The second paper was in the form of a critical analysis of a report upon a specimen presented to the Society in May, 1898, by Mr. Doran, and of some other records recently published in the Society's 'Transactions.' Mr. Doran had entitled his communication "Hæmorrhage from the Fallopian Tube without evidence of Tubal Gestation." Mr. Sutton contended that the specimen was an excellent example of complete tubal abortion. Mr. Doran maintained that as no chorionic villi or

embryo had been found the case remained "not proven," and that his cautious title was fully justified.

10. A series of papers was presented to the Society at the December meeting by Mr. Ponder, a medical missionary in India, in which the author maintained that the true use and mode of action of the midwifery forceps had hitherto been entirely misunderstood. A lively discussion followed, but, as the papers had already been presented to another Society, and had been passed for reading before our Society by inadvertence, they cannot, according to our rules, be printed in the 'Transactions,' and need not be further alluded to.

Gynæcological Papers.

1. The first gynæcological paper of the session was by Dr. Addinsell, and was read at the March meeting, the subject being "Intermenstrual Pain," the so-called Mittelschmerz. The author expressed his conviction that the condition was more frequent than is generally supposed, and, after giving the clinical history of four cases which had occurred in his own practice, discussed other recorded cases and some of the theories that have been propounded in explanation of them. He himself was inclined to regard some diseased condition of the Fallopian tube as the physical basis of the phenomena in most cases, and explained the periodic pain as being the result of an effort on the part of the tube to expel its morbid contents in individuals in whom the physiological cycle of pelvic congestion occurs with exceptional frequency. An interesting discussion followed, in which Mr. Bland Sutton and others maintained that although it was impossible to say that fluid from a distended tube never escaped into the uterus, such an event, if it occurred at all, must be very exceptional. In his reply, Dr. Addinsell combated this view, and quoted Dr. Griffith and others in support of his contention.

2. At the April meeting, Mr. Walter Heape, of Trinity College, Cambridge, communicated to the Society a valuable paper on "The Menstruation and Ovulation of Monkeys and the Human Female." Already, in 1894, Mr. Heape had brought before the Society an account of his observations on the menstruation of *Semnopithecus entellus*. In the present paper he described the results of his investigations into the menstrual phenomena exhibited by another species of monkey, *Macacus rhesus*. Histologically he found that the process was identical in the two species. The same periods of rest, growth, degeneration, and recuperation were observed in both, and the same processes of growth of stroma, of formation of lacunæ from breaking down of congenital results, of degeneration of the superficial mucosa and subsequent rupture of the lacunæ, and of denudation of the superficial portion of the mucosa, with the formation of a menstrual clot as a consequence. Mr. Heape alluded to Mr. Bland Sutton's views regarding the phenomena of menstruation in *M. rhesus*, and suggested that Mr. Sutton had probably been misled in his conclusions, owing to the conditions of life of the animals upon which his observations had been made. Mr. Heape had had an opportunity of examining two uteri from the human female during menstruation. They plainly showed congestion and denudation. He had not as yet, however, met with specimens showing the formation of lacunæ.

With regard to the relation between ovulation and menstruation, Mr. Heape had made a series of very interesting observations. He summarised the known facts in reference to the subject as follows: "For man and monkeys—(1) ovulation and menstruation are not necessarily coincident; (2) menstruation may take place without ovulation. For man alone—(3) ovulation may occur without menstruation.

The paper concluded with some remarks on the origin of menstruation and ovulation. In the primitive condition he thought there was little doubt that they were both

due to the same cause. After showing that the necessary stimulus could not, in the face of known facts, be traced either to the ovary alone or to the uterus alone, he suggested that the origin of the stimulus must be looked for in "the capacity, apparently present in all classes of animals, for storing up an excess of nutriment," and in "the effect, under satisfactory conditions, of the loading of the system with nutriment which must result therefrom."

3 and 4. Dr. C. Hubert Roberts presented to the Society, at its meeting in May, a full and careful record of a case of "Primary Carcinoma of the Fallopian Tube," which Mr. Doran kindly supplemented by a series of tables of all the cases of this rare affection reported up to April, 1898, with name of reporter and full reference for each case.

5. At the June meeting Dr. Herbert R. Spencer read a paper, in which, in addition to recording two cases of his own of fibro-myoma of the uterus removed by operation in women aged twenty-three and twenty-four years respectively, he gave brief critical abstracts of forty recorded cases of uterine fibro-myoma in women under twenty-five.

"In at least eleven of the cases the diagnosis was" wholly "clinical, and in only four cases was the diagnosis verified by examination with the microscope." The conclusion Dr. Spencer arrived at was that uterine fibro-myoma is rare before the age of twenty-five, and very rare before the age of twenty, while of its occurrence before the age of puberty he had been unable to find a single satisfactory record.

Such summaries of the literature of a subject are always of great value, provided they are prepared with the accuracy, thoroughness, and discrimination that characterise this paper, as, indeed, all Dr. Spencer's literary work.

Specimens and Minor Communications.

The specimens exhibited during the past year have, as usual, formed an exceedingly interesting and important part of the Society's work. Following the plan I adopted last year, I will proceed to enumerate them in groups according to the subject which it was the object of the exhibitor to illustrate.

The *physiology of ovulation* was the subject of a demonstration at the December meeting by Dr. Hunter, who exhibited a series of beautifully prepared specimens showing the development and retrograde changes in the Graafian follicle in the human subject.

The *comparative pathology of pregnancy* was illustrated at the July meeting by Dr. Pembrey, who showed five fœtal sacs found free in the peritoneal cavity of a rabbit. Dr. Pembrey agreed with the view held by Mr. Bland Sutton that these cases are not examples of extra-uterine fœtation, but are due to rupture of the uterus and extrusion of the fœtal sacs into the abdominal cavity. Mr. Bland Sutton supplemented the communication with some valuable remarks embodying the results of his own observations on the question of extra-uterine fœtuses in the lower mammals.

The pathology of uterine pregnancy and labour in the human female was illustrated by the following specimens:

(1) An incarcerated dermoid cyst of the ovary removed during pregnancy *per vaginam*, shown by Dr. A. Routh in June.

(2) An incarcerated ovarian dermoid elevated out of the pelvis in the middle of pregnancy, and removed a fortnight after delivery at term, shown by Dr. Spencer at the July meeting.

(*Note.*—These two specimens have already been referred to in an earlier part of the summary.)

(3) A specimen showing recent placental hæmorrhage in a case of abortion, exhibited by Dr. Wise at the meeting in July.

(4) A cystic subperitoneal fibro-myoma of the uterus, four pounds in weight, with short pedicle, successfully removed by abdominal section at the middle of pregnancy, shown at the July meeting by Dr. Dysart McCaw.

(5) A uterus ruptured during unobstructed labour, shown by Dr. Dakin at the meeting in February.

(6) A uterus with interstitial fibroids from a patient who, at her second confinement, had placenta prævia centralis, and died from hæmorrhage forty minutes after delivery, shown at the December meeting by Dr. Boxall.

(7) A case of deciduoma malignum, shown for Dr. Hellier, of Leeds, at the March meeting.

(8) Another specimen of deciduoma malignum, from a case the history of which was brought before the Society in July, 1897, by Dr. Lewers, and exhibited at the meeting in June of the present year for the purpose of reporting the after history of the patient. The uterus had been extirpated *per vaginam*, and Dr. Lewers was able to report that the patient was now, fifteen months after the operation, in perfect health.

The pathology of the puerperal period was dealt with in only one of the shorter communications, viz. in a note read by Dr. Blacker at the July meeting, on a remarkable case of acute bedsore following parturition, in which there was no nervous lesion or other obvious cause.

Dr. Blacker's communication was rendered specially valuable by a critical *résumé* of the literature of the subject which he had appended to it.

Monsters.

Three teratological specimens were exhibited, viz. a double monster of dicephalous type, shown by Dr. Owen

Fowler in March ; a case of monstrosity, shown by Dr. Phillips at the same meeting, in which, owing to an amniotic adhesion, the placenta was attached in the form of a sac to the top of the fœtal head, and had thereby interfered with the development of the upper part of the cranium ; and, lastly, a specimen shown by Dr. Burton in June, and referred to a committee which has not yet presented its report.

Ectopic gestation.

Several specimens were shown relating to the subject of ectopic gestation. Thus—

1. A specimen was exhibited at the January meeting by Dr. J. Phillips, consisting of a placenta from a case of extra-uterine fœtation, in which a full-term child was removed five months after its death, and in which the separation of the placenta, though accomplished with some difficulty, was unattended with serious hæmorrhage.

2. At the April meeting Mr. E. Rumley Dawson showed a specimen of ruptured tubal gestation from a patient said to be thirty-two, but looking older, who had been married five months, and who, from the known facts of the case, could only have been fifteen days pregnant at the time of rupture. The patient died in six hours and a half from the first symptoms of illness. The autopsy showed a rupture of the right Fallopian tube near its uterine end. There were several pints of fluid blood and some handfuls of clot in the peritoneal cavity. The uterus was the seat of numerous fibro-myomata, and contained within its cavity a large purple coloured decidual membrane.

3. Mr. Doran, at the meeting held in May, gave a detailed account of a case in which a firm blood-clot, pyramidal in shape and measuring 2½ inches across its base, was found adhering to the abdominal ostium of the right Fallopian tube.

The patient had miscarried eighteen months previously, and was not known to have had any other pregnancy.

Menstruation had always been irregular. There had been a severe attack of pain twelve weeks before admission to the hospital, with profuse uterine hæmorrhage. The canal of the tube showed no sign of dilatation, and microscopic examination of the clot revealed no chorionic villi or other evidence of gestation. Under these circumstances Mr. Doran felt himself justified in regarding the case as one of the rare instances of hæmorrhage from the Fallopian tube due to some other cause than tubal pregnancy. In a paper to which I have already alluded, Mr. Bland Sutton took occasion to combat Mr. Doran's view and to express his firm belief that the specimen was a tubal mole after complete (tubal) abortion.

4. In the course of the discussion on Mr. Doran's communication, I mentioned the particulars of a case of ruptured tubal gestation in which I had operated ten days previously whilst the patient was in a condition of collapse, with the pulse at the wrist imperceptible. Two and a half pints of blood were found in the peritoneal cavity, and on the upper surface of the right Fallopian tube, close to its uterine end, was what appeared to be a ragged rent with a fragment of tissue or pale blood-clot lying in it. This fragment was afterwards examined microscopically, and chorionic villi were found in abundance. The main point of interest in the case, as bearing upon Mr. Doran's specimen, was that the tube was of absolutely normal calibre, and that the part external to the rent, four inches in length, was perfectly normal. The left appendages were examined and found quite healthy. Hence the mere fact of a tube being found of normal calibre and appearance is not to be accepted as proof that it has not recently been pregnant. In my case the tube had resumed its normal size and appearance (except for the rent in its wall), within nine hours of its rupture. This fact is one of extreme importance, especially as the nature of the case was established by microscopic evidence, and the history pointed to the

probability of the pregnancy having advanced to about six weeks, and of the ovum having consequently attained a considerable size.

5. As a direct outcome of the discussion of which I have just been speaking, Dr. A. Routh was able to show, at the following (June) meeting, a case of ruptured tubal gestation at the fourth or fifth week in which, stimulated by the success which had attended my operation under equally unpromising circumstances, he had successfully operated whilst the patient was collapsed and almost pulseless. A report upon the specimen by Mr. Targett added to the value of Dr. Routh's communication.

6. At the November meeting Mr. Butler-Smythe exhibited a microscopic section from a case of incomplete tubal abortion showing chorionic villi. The patient had been seen in town by Mr. Butler-Smythe. The symptoms and history pointed to the probability of ectopic gestation, and the patient was advised to enter a home with a view to immediate operation. She insisted, however, upon returning for a few days to her home in the country. On the morning appointed for her return, Mr. Butler-Smythe received a telegram to say she was on the way, but a second telegram arrived requesting him to go down immediately prepared to operate. This he did, and found his patient in a state of profound collapse, blanched and pulseless, a condition which had supervened suddenly whilst she was driving to the station. Not without considerable misgiving, he operated at once, cleared out the blood from the peritoneal cavity, and removed the sac. During the operation copious rectal injections of hot saline solution were administered with great benefit, and the abdominal cavity was kept filled with a similar solution. The patient did well. Many sections from the specimen had been examined with negative results by a competent but non-medical microscopist, who, being unaware that villi when present were most surely found on the surface of the clot where it adhered to the tube-wall, had taken his sections from the substance of the

clot. A gynæcological microscopist, possessing this knowledge, found chorionic villi immediately.

Fibro-myomata of Uterus.

The increased attention bestowed at the present time on uterine fibro-myomata is again shown by the number of specimens brought forward during the year.

1. At the January meeting Dr. F. J. McCann showed a multinodular fibro-myoma, 6 lbs. in weight, which he had successfully removed by abdominal hysterectomy on account of persistent retention of urine.

2. Dr. Dakin showed, at the February meeting, a sloughing fibro-myoma of the size of an orange situated in the posterior wall of the uterus. From its clinical characters it was thought before operation to be a sarcoma. Dr. Dakin therefore removed the entire uterus *per vaginam*. The patient did well.

3. At the April meeting Dr. Macnaughton Jones showed a large uterine fibro-myoma removed by abdominal hysterectomy, in consequence of persistent pain in the left hip and other obscure symptoms. At the operation there was also found a solid tumour in the left ovary, a section of which, prepared by Mr. Targett, was exhibited under the microscope. A committee subsequently reported the growth to be akin to adeno-fibroma of the breast and certainly non-malignant.

4. A fibro-myoma of the uterus, reaching $3\frac{1}{2}$ inches above the umbilicus and projecting downwards into the vagina, where it formed a mass equal in size to a fœtal head, was shown at the same (April) meeting by Dr. Walter Tate, who had removed the entire mass by abdominal hysterectomy.

5 and 6. A large fibro-myoma of the uterus undergoing sarcomatous and another undergoing cystic degeneration were shown by Dr. Horrocks at the May and June meetings respectively.

7. At the November meeting Dr. Tate showed a sloughing fibro-myoma of the uterus occurring in a single

woman, twenty years after the menopause, and removed by abdomino-vaginal hysterectomy.

8. At the same meeting I exhibited an œdematous sub-peritoneal fibro-myoma removed by abdominal hysterectomy.

9 and 10. At the December meeting Dr. Lewers showed a large, solitary, sub-peritoneal fibro-myoma of the uterus, 9½ lbs. in weight, removed successfully by abdominal myomectomy; and a uterus, 8 lbs. in weight, studded with multiple fibroids, successfully removed by abdominal hysterectomy.

Fibro-myoma of Broad Ligament.

Three examples of fibro-myoma of the broad ligament were brought before the Society; one, weighing 14 lbs., shown at the March meeting by Dr. Ewan Maclean; another, with cystic degeneration and complicated by a malformed uterus, shown at the same meeting by Dr. Gow; and a third, of enormous size, weighing 44½ lbs., successfully removed from a patient aged twenty-eight, exhibited by Mr. Doran in November.

Fibro-myoma of Vagina.

A fibro-myoma, 10½ oz. in weight, enucleated from the anterior vaginal wall in a single woman forty-nine years of age, was shown at the March meeting by Dr. Phillips. In this case there was an offensive discharge, which proved to be due to decomposition of menstrual fluid retained in the upper part of the vagina.

Malignant Disease of Uterus.

Of malignant tumours of the uterus there were shown, in addition to the examples of deciduoma malignum already mentioned, three specimens; one at the January meeting by Dr. McCann, a malignant adenoma of the cervix; one at the February meeting by Dr. Handfield Jones, an example of cancer of the corpus uteri; and one at the July meeting by Dr. Tate, in illustration of the

manner in which carcinoma of the cervix may extend upwards into the body of the uterus.

Morbid Conditions of the Ovary.

At the June meeting Mr. Doran exhibited some blood concretions in the ovary, and Mr. Bland Sutton exhibited an ovary containing a calcareous ball, probably a large calcified corpus fibrosum.

Dr. Pollock, at the March meeting, exhibited dermoid cysts of both ovaries, and, at the November meeting, Mr. Doran showed a myxo-sarcoma also affecting both ovaries, and simulating a lobulated uterine fibro-myoma from a woman aged forty-six.

In connection with the subject of ovarian disease, Mr. Targett showed, at the May meeting, a preparation from a case of double intestinal obstruction following ovariotomy.

Tubal Disease.

Only two specimens of tubal disease were brought forward, one from a case of double pyosalpinx (in which the tubes were enormously distended), shown by Dr. C. Hubert Roberts in March, and one from a case of hæmatosalpinx, shown by Dr. A. Routh in November. The latter specimen was from a patient aged thirty-three. She had been operated upon in 1896 for mammary cancer which recurred in the axilla eighteen months later. The question was then mooted of removing the uterine appendages with a view to checking the further progress of the growth. At the operation it was noticed that there was a dilatation of one tube, and as the uterus was enlarged it was naturally thought to be an early case of ectopic pregnancy, especially as the ovary on that side contained a large *corpus luteum*. Under the microscope, however, no chorionic villi could be found, and when she returned to the hospital some time after, she was found to be five months pregnant.

Miscellaneous.

The late Dr. Remfry showed, at the January meeting, a hydrocele of the canal of Nuck containing a portion of the left Fallopian tube.

At the June meeting Dr. Macnaughton Jones read a note on a case of complete incontinence of urine cured by ventro-fixation of the uterus.

This concludes my review of the year's work. My next duty is to speak of the Fellows who have been removed from us by death, and to give a brief account of their life and work.

Obituary Notices.

The Society has to regret the loss during the past year of one of its Honorary Fellows, Dr. Charles West.

Charles West

was born in London on August 8th, 1816. His father had originally been engaged in business, but a few years after his marriage he felt a "call" to become a preacher amongst the Baptists, the denomination to which both he and his wife belonged. In 1821 he became pastor of the Baptist congregation at Cheneys, in Buckinghamshire, and in order to increase his income he established a school there. After a time the school was removed to Amersham. It was at his father's school that Charles West received his early education. In 1831, having determined to devote himself to the profession of medicine, he was apprenticed to Mr. Gray, of Amersham, with whom he remained for two years.

In 1833, he entered as a student at St. Bartholomew's Hospital, and in 1835 he went to the University of Bonn, where he studied for a year, gaining the University prize for an essay, in Latin, on the "Female Pelvis and its Influence on Parturition." This essay afterwards served as his inaugural thesis. In November, 1836, he went to Paris, and in April of the following year to Berlin, where he took

his M.D. degree. He now returned to London, where he entered into an unprofitable partnership in the City, devoting his leisure to clinical study in the medical wards of St. Bartholomew's Hospital under Dr. P. M. Latham. In the summer of 1838 he went to Dublin, where he became an indoor pupil at the Rotunda Lying-in Hospital, returning to London in 1839. In that year he published an English translation of a work by the younger Naegele on "Obstetric Auscultation." Soon afterwards he began to pay special attention to the diseases of children, and in 1842 he was appointed Physician to the Dispensary for Children and Women in Waterloo Road. His contributions to the literature of his profession were at this time and throughout his life very numerous. He reviewed foreign medical works, and compiled digests of progress in midwifery and the diseases of women and children for the 'British and Foreign Medical Review' for several years, besides contributing original articles to its pages.

In 1845 he was appointed Lecturer on Midwifery at the Middlesex Hospital, and in the following year he was elected to succeed Dr. Ashburner as Physician-Accoucheur to that hospital. In 1847 he gave a course of lectures in the hospital on the diseases of children. These lectures were published in the 'Medical Gazette,' and afterwards in a volume, of which the first edition appeared in 1848, and the seventh in 1884, having been meantime translated into many of the European languages and into Arabic. This book was the best of its day on the subject of children's diseases, and was, like all Dr. West's books, delightfully written.

In 1848 he joined Dr. Rigby as co-lecturer on Midwifery at St. Bartholomew's Hospital and when, in the following year, Dr. Rigby retired he was appointed sole lecturer. He nevertheless retained the office of Physician-Accoucheur at the Middlesex Hospital until 1855, when he was appointed to a similar office on the staff of St. Bartholomew's with the charge of thirteen of the physicians' beds, the arrangement being that the patients in these beds

were admitted under the care of the several physicians and still nominally belonged to them throughout their stay, though their care and treatment were entirely undertaken by Dr. West. In August, 1861, he resigned both the appointment of Physician-Accoucheur and that of Lecturer on Midwifery at St. Bartholomew's. His midwifery lectures were, it is said, full of sound common sense, graceful in style, irreproachable in diction, and admirably delivered.

In the meantime, as early as 1849, Dr. West had begun to agitate for the establishment of a children's hospital in London. Having failed to induce the authorities of the institution in Waterloo Road to convert the dispensary into a hospital, he busied himself in the collection of statistical information as to the accommodation for children afforded by the various London hospitals, and thus armed he issued a printed appeal and called upon all the leading physicians with a view to obtain their support for his project. A provisional committee was formed and held its meetings at the house of Dr. Bence Jones. The scheme met with much opposition, but in 1851 had made sufficient advance to encourage an appeal to the public, and a meeting presided over by the late Earl of Shaftesbury, then Lord Ashley, was held in the month of May in the Hanover Square rooms. A week or two later the house in Great Ormond Street, which had once been the mansion of the famous Court physician, Dr. Richard Mead, was secured for a children's hospital. Its magnificent staircase, and spacious rooms rendered it in many respects exceptionally suitable for its purpose. In July and August 1851, Dr. West travelled through France and Germany, gathering all the information he could about the construction, furnishing, and organisation of hospitals with a view to the necessary alterations and equipment of the newly-acquired premises. The hospital was opened in February, 1852, and thus was brought to fruition the most important undertaking with which Dr. West's name is associated. He wrote the early reports of the hospital and lectured there on children's

diseases. His famous little book 'How to Nurse Sick Children,' a marvel of sympathetic insight into child nature, was published for the benefit of the institution. He remained Senior Physician to the Hospital for twenty-three years.

In 1842 Dr. West was admitted a Member of the Royal College of Physicians, and he was elected a Fellow in 1848. He held the office of Councillor in 1860, 1861, and 1869, and of Censor in 1863. In 1870 he was appointed Senior Censor.

In 1854 he delivered the Croonian lectures before the College, selecting as his subject "An Inquiry into the Pathological Importance of Ulceration of the Os Uteri," in which he combated the extravagant views of Dr. Henry Bennet, which were at that time much in vogue. He delivered in 1871 the Lumleian lectures on "Some Disorders of the Nervous System in Childhood," and in 1874 he was appointed Harveian Orator.

His well-known work on the 'Diseases of Women' first appeared in 1856. It was by far the best treatise on the subject that had yet been written in the English language, the first, indeed, that had adequately represented the knowledge of the time, whether in our own country or abroad. It passed through several editions, the fourth and last being published in 1879, under the editorship of Dr. Matthews Duncan, who, in his preface, paid a very high compliment to the author.

He was elected an Honorary Fellow of this Society in 1870, he was also a Foreign Associate of the Académie de médecine of Paris. In 1877 and 1878 he had the unique distinction of occupying the position of President of this Society and of the Royal Medical and Chirurgical Society simultaneously. It was during his first year of office that "a committee (of this Society) was formed to draw up the details of a scheme which should," to use Dr. West's own words, "provide for all midwives receiving, as they do in every continental country, a certain minimum of general and special education, and for their passing a very simple

examination." A deputation of the Society, headed by the President, waited upon the Duke of Richmond, then Lord President of the Council, to urge the matter upon the attention of the Government, and His Grace expressed himself as favourable to the principles which the Society's scheme embodied. Dr. West himself, as is well known, held very strong opinions as to the inexpediency of women engaging in the practice of medicine generally, opinions which time and the logic of facts did nothing in later years to modify. "But we cannot," he says in his Annual Address, "abstain from taking up the subject (of the education and registration of midwives) when we find that there is a body of several thousand women to whom the poor of this country have to look for attendance in their confinements, and that the bulk of these women have absolutely no education to fit them for their duties, and have advanced little, if at all, in intelligence during the past hundred years." And in a letter to myself, dated "Nice, December 24th, 1897," he expressed himself still more strongly. "I trust," he says, "that the Society over which you preside will not be in any way deterred from the attempt to raise the education and status of midwives by utterances such as those of Mr. Victor Horsley. It would be as reasonable," he continues, "to abolish the Pharmaceutical Society because dispensing chemists overstep their proper duties and give advice across the counter to people who come to them for medicine, as to endeavour to keep the midwife ignorant and incompetent lest she should interfere with the interests of the practitioner. His (*i. e.* Mr. Victor Horsley's) address is conceived in the spirit of the lowest trades unionism, and ignores entirely the wants of the poor." These words came quite unsolicited, in a reply to a dinner invitation, and may therefore be taken to express the writer's keen interest in the subject and deep-rooted conviction of its gravity and importance.

In the year 1880, Dr. West, desiring to escape the London fogs, went to reside in Nice. This he continued to do for several years. But in 1885, having greatly im-

proved in health, and being anxious to be more actively employed, he returned to London and resumed practice in Harley Street. He appears to have had some hope of finding work in one of the children's hospitals but this, of course, was found to be impracticable. He had some private practice, but most of his time was spent in travel, in reading, and in literary work. The fogs again tried him, and he was obliged to winter abroad. Still he never lost his interest in his profession, and only a year or two before he died he published an expansion of an old introductory address, delivered in 1850 at St. Bartholomew's, under the title of "The Profession of Medicine, its Study and Practice, Duties and Rewards."

The opening words of the preface seem to me to illustrate so well Dr. West's fascinating style, and to possess such a pathetic interest, now that he is gone, that I cannot resist the temptation to quote them. "At the close of a long life," he says, "when active work is ended, when there is no more scope for ambition, no more question of self-interest; and when the mind turns naturally to what they are doing on the other side, rather than to what is passing here; one still asks oneself, is there yet nothing can be done to help those just entering on the path which one began oneself to tread sixty-three years ago?" "I have," he continues, "adopted the title of an old introductory lecture because, what I thought then, when my way seemed smooth and all my prospects fair, I think still, after much rough journeying and often under cloudy skies. An old man's opinions on these subjects will, I am sure, meet with indulgence. . . ."

In the winter of 1897–8 an attempt was made to dissuade him from undertaking the customary journey to the Riviera, on account of his advanced age and increasing feebleness. But he decided to go, and he remained abroad until the beginning of March. His health had been failing more and more, and now his great desire was to reach home again. On arriving in Paris he was manifestly unable to continue his journey, and after three

weeks' illness there he quietly sank, his death taking place on the 19th of March, 1898, at the age of 81. By his own request he was buried at Chislehurst. A memorial service was held at the Roman Catholic church in Palace Street, Buckingham Palace Road, at which this Society was represented by its President and Senior Secretary.

Dr. West was twice married, and had two children, a son and a daughter. His son is the Rev. Dr. Herbert West, of Ascham House School, Bournemouth.

"Charles West," says an anonymous writer in the 'British Medical Journal,' in a passage which itself is marked by unusual eloquence, "was undoubtedly one of the best public speakers in the profession. He handed down to this generation the traditions of the great orators of the past, and his finished orations belong to a class now seldom heard. . . . . Even in private conversation he was deliberate in utterance, fastidious in the choice of words, and careful in the construction of his sentences. A public speech by him, especially one for which he had been able to make some preparation, was an artistic production which might be enjoyed even by those who dissented from his arguments. It was logically arranged, illustrated by simile and historical reference, every sentence well balanced, and every word well weighed. He had, in fact, many of the qualities of an orator—a good presence, variety of gesture, a voice capable of much modulation, considerable dramatic power, a mind well stocked with miscellaneous reading and a happy imperturbability which enabled him to turn interruptions to account, and to face a hostile audience without a trace of nervousness." But tastes change, and the style of oration here so eloquently described is not perhaps now admired so much as it once was. Nevertheless, it might well have been expected that one so highly gifted would be chosen to fill the position of President of the College of Physicians. He had the requisite scholarship, the requisite ambition, the requisite seniority, and the requisite leisure. Yet no one who was personally acquainted with him ever thought

of him in connection with that high office. The duty of writing these obituary notices is not always an easy one. It is sometimes very difficult, and occasionally almost impossible to find out the main facts of a man's life. It is sometimes equally difficult to present a true picture of the life, even when the facts are forthcoming. The temptation, of course, is to be content to write a panegyric, enlarging on all the man's virtues, and remaining silent as to his faults. Let us hear what Dr. West himself said about this part of a President's duty. It is evident that he painfully realised its difficulty. In introducing the customary notices of the deceased Fellows in his annual address, he says, "How best to do this is a problem which I do not well know how to solve. A dull catalogue of the day of birth, the day of death, the appointments held, the works written, would yield but little interest or profit—a mere colourless outline, in which it would be hard to recognise the once familiar features. To overlay the dead with praise would answer no better end. . . . I will try," he continues, "to be an honest chronicler, and to say of our lost friends what they who dwell now in a land where there are no false seemings would, if they revisited us, wish said of themselves."

Let me, in this spirit, endeavour to explain why Dr. West's highest ambition was not, and never could be fulfilled. He had one great failing which made it impossible. "With all his accomplishments," says the writer of an unpublished biography of him, "he was not in accord with his fellow men." No biography of him would convey a truthful portrait that did not make mention of this peculiarity, this flaw in a character and disposition in many respects truly admirable. He was continually acting as though he considered himself charged with "a divine mission to set the universe to rights." "He might have been," says the biographer from whom I have already quoted, " . . . . actuated by the highest motives in correcting the errors of others, nevertheless it led him to be continually at variance with his medical brethren. The

fact is a matter of history, and cannot be overlooked by anyone who proposes to write his life." His well-known difficulties with the staff of the Children's Hospital are a case in point. It was this contentious disposition that spoilt him, and that explained the otherwise enigmatical history of his life. But I have said enough. Less, I could not truthfully have said.

Yet, whatever may have been Dr. West's faults, it must ever be remembered that he accomplished, amidst much opposition and disappointment, a great work and that he was the possessor of qualities such as are the heritage only of the distinguished few. He was a man of whom not only this Society but the medical profession throughout this country may always be justly proud.

Before passing on to speak of our losses during the past year amongst the Ordinary Fellows, I must allude to a death that took place in 1897, but was not known to me when I delivered my last address.

Karl Liebman

of Trieste, was probably known personally to few if any of the Fellows present except myself, although he had been a Subscribing Fellow for upwards of twenty years, and every year had sent to the Society, after the delightful fashion of his country, a message of greeting and goodwill on Christmas day. Our deceased colleague was born at Trieste on December 27th, 1839. On leaving school he went into business, but after three years' experience, finding himself drawn towards a scientific career he obtained his father's permission to again devote himself to study, and in one year had worked with such energy as to have made up for the time he had lost, and qualified himself for admission to the University of Vienna, which he entered in the year 1857, and where he obtained his degree in 1862. He had already, during the last two years of his residence as a student at the University, shown a decided taste for obstetrics and gynæcology, and he now hoped to remain in

Vienna and continue to work at those subjects. Circumstances, however, compelled him to abandon this project and to betake himself to practice in his native town. In 1872 he received an appointment on the staff of the town hospital, and, in consequence of his having acquired by his writings a considerable reputation in midwifery and gynæcology, a special obstetric department was established, with Liebman as its chief. Ten years later he had the title of Professor conferred upon him in recognition of his services as head of the new department.

In 1875 he visited this country, read a paper before this Society entitled "Clinical Notes on the early course of Cancer of the Cervix Uteri." In that paper he showed that the disease might spread much higher on the lining membrane of the cervical canal than the condition of the vaginal portion would lead the observer to suppose. He therefore supported the views of Spiegelberg, who had declared removal of the portio vaginalis to be useless in all cases of cervical cancer, except in pedunculated, cancroid, papillary tumours of the lips of the os uteri, and opposed the opinion of Robert Barnes, who advocated removal whenever a distinct neck could be felt above the disease and the uterus remained moveable. It need scarcely be said that this was before the more radical operations of supra-vaginal amputation of the cervix, and total extirpation of the uterus had been proposed.

In May, 1875, Liebman was elected a Fellow of this Society, and in August of that year, I had the pleasure of making his acquaintance at the meeting of the British Medical Association in Edinburgh, on which occasion I officiated as secretary to the section of obstetrics under the presidency of Dr. Matthews Duncan. During the few days we were thus thrown together I saw a good deal of Liebman, and formed a high opinion of him as a scientific and enthusiastic worker in obstetric medicine. We never met again, but we kept up our acquaintance by the interchange of our publications, and watched each other's career with interest. In 1878 he joined the staff of the 'Centralblatt

für Gynäkologie,' and furnished to that journal critical abstracts of Italian contributions to the literature of obstetrics and gynæcology. He also wrote reports of his hospital work, a sketch of the hygiene of pregnancy, and several clinical studies, amongst which may be specially mentioned the following: on perforation of the uterine wall by the sound (1879): on intra-uterine medication (1877); on a simple and easy method of vaginal hysterectomy (1889); on scarlatina in the puerperal woman (1876); on a case of extirpation of the spleen (1888); on a case of myocarcinoma of the uterus (1888); and on the retention of the dead ovum in the uterus.

Liebman was a Foreign Member of the Obstetrical Society of Berlin, and a Corresponding Member of the Italian Society of Obstetrics and Gynæcology, and of the Medico-Chirurgical Society of Bologna.

He died at Trieste on August 17th, 1897, at the age of fifty-seven.

The first death that occurred amongst the Ordinary Fellows during the year 1898 was that of

Leonard Remfry,

one of the most active and promising of our younger obstetric physicians. Leonard Remfry was born in Calcutta in the year 1860. His father belonged to an old Cornish family, and was a partner in a well-known firm of East India merchants. His mother was the daughter of an ex-president of the Wesleyan Methodist Conference, Dr. Robert Young. Dr. Leonard Remfry was educated at Dulwich and at Christ's College, Cambridge, where he graduated in arts and medicine. On leaving Cambridge in 1882, he entered as a student at St. George's Hospital, where he obtained in succession the offices of House Physician and Obstetric Assistant. He was greatly esteemed, both as a genial and good-natured companion and as a conscientious worker, and when, in 1894, an assistant obstetric physiciancy was created, he was unanimously

elected to fill the post. He also held the appointment of Obstetric Physician to the Great Northern Hospital. He took his doctor's degree at Cambridge in 1890, and very shortly afterwards became a Member of the Royal College of Physicians. He made several important contributions to the literature of his profession, amongst the earlier of which may be mentioned "A Case of Pulmonary Embolism," read before the Clinical Society; "A Case of Collapse after Ovariotomy," in which life was saved by the intravenous transfusion of saline solution, recorded in the 'Lancet;' and "Some Investigations into the Condition of the Urine at Birth," published as part of a paper by Dr. W. Howship Dickinson in the fortieth volume of the 'Transactions of the Pathological Society.' To our own Society he contributed a case of fœtal retroflexion; a paper comparing the effects, on fibro-myomatous tumour of the uterus, of ligature and division of the upper part of both broad ligaments, with those of the older operation of removal of the uterine appendages; an account of all the recorded cases of ovariotomy in women over eighty; and, lastly, a valuable monograph on the effects of lactation on menstruation and impregnation. He also published in 'International Clinics' a lecture on the conservative treatment of uterine fibroids.

Dr. Remfry proved an excellent teacher. He was endowed with remarkable perseverance, and with a singularly winning personality, so that his success was certain. Indeed, he had already begun to make his mark, when, to the great grief of his many friends, he died suddenly from epileptic coma on the 11th of February, 1898, at the early age of thirty-seven. Dr. Remfry was married, and had two children. His recreation was music, being himself an excellent musician and a fine instrumental performer. He was a very regular attendant at our meetings, and at the time of his death was one of the Society's Examiners for the Certificate in Midwifery. All of us who are engaged in the active work of the Society felt his loss severely.

The next name on my list is that of

Brigade Surgeon Joseph Johnston,

who had been a Fellow of our Society since 1881, and had served on its Council during the years 1891 and 1892.

Dr. Johnston was born at Montrose, and received his medical education at the University of Edinburgh. He specially distinguished himself in the Department of Obstetric Medicine, which was presided over in Edinburgh at that time by the late Sir James Simpson.

He graduated in 1854, obtaining the gold medal for the best thesis of the year. He had attained under Simpson such skill in the administration of the new anæsthetic, chloroform, that he was selected, on the outbreak of the Crimean war, to proceed to the hospital at Scutari, where he did excellent service. He joined the Army Medical Department and served in Ceylon, and afterwards in India. In 1868 he accompanied the 26th Cameronians to Abyssinia, but was soon invalided home. He retired in 1880, and accepted an artillery appointment at St. John's Wood barracks. He was highly esteemed by the many batteries of which he successively had charge, and his body was carried to the grave by a number of artillerymen.

Dr. Johnston had some private practice whilst in London, but being possessed of private means, he never specially laid himself out for it, although his professional attainments, quick sympathy, and fine presence would almost certainly have ensured him, had he desired it, a large *clientèle*. He died on the 15th of March, 1898, at the age of 66.

Emil Arnold Praeger

died at Los Angeles, California, on the 6th of March, 1898, at the age of forty-three. He was born in England, and for a short time practised his profession amongst us, but about fifteen years ago he had an attack of blood-poisoning, which laid him aside for nearly a year. On his recovery he went out to British Columbia, where he established a large practice. This he relinquished owing to the

illness of his little daughter, and pitched his tent in South California. Although he had only been four years resident in the State, he had so won the respect of his professional brethren that he had been already unanimously chosen as President of the County Medical Society. He is described by those who knew him as a man of high ideals, and a staunch upholder of the dignity and honour of his profession. He was elected a Fellow of our Society in 1885, so that his name had been on the roll for thirteen years.

John Riggs Miller Lewis

died somewhat suddenly on August 13th, 1898, at his residence, Kingston Hill, at the age of seventy-seven. At the time of his death he held the honorary rank of Deputy-Surgeon General of the Army, having retired in 1876 on half-pay. He had previously held the post of Surgeon to the 60th Rifles, and more recently that of Surgeon-Major to the Royal Artillery. Dr. Lewis received his early medical education in Dublin, where he took prizes in anatomy (1843), and in midwifery (1844). He became a Member of the Royal College of Surgeons of England, and a Licentiate in Midwifery of Anglesey Hospital, Dublin, in 1844. In 1847, he passed the examination for the Licence of the Society of Apothecaries of England, and also took his M.D. degree at Glasgow. In 1860 he became a Member of the Royal College of Physicians of London. He contributed two papers to the 'Army Medical Reports,' viz. one in 1871, on a "Case of Femoral Aneurism successfully treated by Compression"; the other in 1882, on a "Case of Poisoning by Iodoform." He was elected a Fellow of our Society in 1877, and had therefore been associated with us for nearly one and twenty years.

George Roper

was born on the 15th of August, 1823, at Colby, in the county of Norfolk, where his ancestors had lived for 300 years. He received his medical education at Guy's Hospital,

and became a Member of the Royal College of Surgeons and a Licentiate of the Society of Apothecaries in 1847. After a short experience in the service of the Hudson Bay Company he joined Mr. F. Wildbore, a general practitioner in Shoreditch, with whom he had already served as an articled pupil, and to whose practice he eventually succeeded. He became a man of great influence in the locality, and acquired a considerable reputation as an able and scientific obstetrician. Having been fortunate enough to receive some substantial legacies, he retired from the practice about 1866. After a few years spent in travel and country pursuits he determined to devote himself to consultation work in his favourite speciality of obstetric medicine. In order to do this it was necessary that he should possess a degree. He therefore went to reside for a year in Aberdeen, where he took the degree of M.D. in 1873. In the following year he obtained the Membership of the Royal College of Physicians of London. For four years he did excellent work as one of the physicians to the Royal Maternity Charity, residing during this time in Finsbury Circus. His large experience in operative midwifery, for which he had a special aptitude, furnished him with the material for a really important and most valuable contribution to the discussion which took place at this Society, in 1879, on the use of the forceps and its alternatives in lingering labour. He was subsequently appointed Physician to the Royal Hospital for Children and Women in Waterloo Road, and removed to Ovington Square. In 1889 he left London again and settled near his native place in Norfolk. After residing there for some years his health failed, and, being unmarried, he went to live with relatives at Southwold in Suffolk, where he died of angina pectoris on August 14th, 1898, at the age of seventy-five years.

Dr. Roper was elected a Fellow of this Society in 1865. He served on the Council from 1875 to 1877, and again in 1883 to 1885; he was Vice-President from 1879 to 1881, and again in 1889; and he was a member of the

Board for the Examination of Midwives from 1880 to 1881, and from 1883 to 1885. He was a great traveller, had a good knowledge of horses, and was a keen sportsman. His old fellow student and lifelong friend, Sir Samuel Wilks, says he respected no man more than he did George Roper, who was, to his mind, a model general practitioner. "Straightforwardness and independence of character were," he says, "his main qualities." He speaks of him as being "remarkably acute in his insight into cases," and as having "made some capital diagnoses in cases of difficulty." Dr. Herman, who succeeded him in the service of the Royal Maternity Charity, has shown his admiration for his predecessor by dedicating to him his book on "Difficult Labour."

Dr. Roper contributed eleven papers to our 'Transactions,' mostly on obstetrical subjects. All of them were thoughtful and practical, but probably none equalled in importance or in permanent value his memorable speech in the discussion on the forceps to which I have already alluded. He also exhibited a number of very interesting specimens from time to time, and suggested several improvements in the cephalotribe and other obstetric instruments.

Besides his communications to this Society and other papers to the various medical periodicals, he contributed, in 1885, an account of a case of sudden death during labour to the pages of the 'Lancet.'

All of us will, I feel sure, be disposed to agree with the writer of the obituary notice of Dr. Roper that appeared in the 'Lancet,' when he says that Dr. Roper, combining as he did "a love of science and a grasp of its principles with a delight in the practical side of his work," "belonged to an order of practitioners that can be ill spared by the profession or the public."

JOHN WALLACE,

one of our leading Provincial Fellows, and for many years (1875 to 1891) one of our honorary local secretaries, was

born October 8th, 1837, at Falkland, in Fifeshire, and studied medicine at the University of Edinburgh, where, in 1861, he took his M.D. degree. After practising for a few years, first in Scotland, and afterwards near Carlisle, he settled in the year 1868 in Liverpool. There he soon made his mark as one of the District Medical Officers of the Liverpool Ladies' Charity and Lying-in Hospital, and, as a consequence, received in 1878 the appointment of Lecturer on Midwifery at the Liverpool School of Medicine, in succession to Dr. A. B. Steele. He was also elected Physician for the special diseases of women to the Royal Infirmary, and was placed in charge of the Thornton Wards in that institution. Upon the amalgamation of the School of Medicine with University College, Liverpool, Dr. Wallace became Professor of Midwifery and Gynæcology in the College, and an Examiner in Obstetric Medicine in the Victoria University. He was joint editor of the 'Liverpool and Manchester Medical and Surgical Reports' in 1876, and sole editor in 1877 and 1878. He published several papers on obstetric subjects, one, for example, in the 'Edinburgh Medical Journal' for 1872, on "The Exact Diagnosis of the Placental Position in Placenta Prævia by Vaginal Stethoscopy, and a Direct Mode of Hæmostatic Treatment," and, in the 'Reports' of which he was some time editor, one in 1876, on "The Mechanism of the Outlet in Natural Labour. . . . and How to Prevent Laceration;" and another in 1878, entitled "Clinical Studies on Some Forms of Utero-pelvic Disease." In 1879 he delivered an address, introductory to the opening of the Liverpool School of Medicine, on "The Connection between Hospitals and Medical Schools, and on Some of the Recent Advances in our Knowledge of the Diseases of Women." At the meeting of the British Medical Association held in Liverpool in 1883, Dr. Wallace opened a discussion in the section of obstetrics and gynæcology, on "Extirpation of the Uterus for Cancer." At that time the operation had not by any means been accepted in this country as a legitimate addition to our surgical resources

in uterine cancer, so that it was a somewhat bold proceeding for Dr. Wallace to justify it. This he did, however, pointing out the necessary conditions for success, and advocating the vaginal method of operating as preferable to either the abdominal or the combined abdominal and vaginal method. Dr. Wallace, too, was one of the earliest operators in this country to take up with enthusiasm the operation of abdominal hysterectomy in certain cases of uterine fibroids. He performed this operation at one time extensively, but of late years I am told that he absolutely refused to do so unless the patient's life was in danger.

Dr. Wallace had been in an unsatisfactory state of health for several years, and had been assisted in his lectures by his son, Dr. Arthur Wallace. His last illness, however, was enviably short. He had been suffering for a day or two from what he thought to be a slight gastric catarrh, when, after being present at his son's marriage, an attack of hæmatemesis suddenly supervened, and proved quickly fatal. He died on September 1st, 1898, at the age of sixty. His remains were cremated at Anfield in accordance with his wish.

Dr. Wallace belonged to a genus of Scottish university students, now almost, if not quite, extinct, who went up to college every October, taking with them bags of oatmeal and barrels of herrings. His son tells me that he was unable to raise sufficient money to pay his examination fees until the end of his fifth year, so that he had to pass in all the subjects of the curriculum at one time, a feat that he duly accomplished. The hardships and rough experiences of his early life bore fruit in a certain rugged independence of character which distinguished him throughout his career. He had a contemptuous disregard for many of the amenities of both social and professional life, and spoke out his mind with a blunt frankness that sometimes created difficulties. But it is quite probable that a weaker man would have failed to establish the position of the gynæcological department in the Liverpool Hospital as he succeeded in doing. No previous occupant of the post had given any clinical

teaching, or performed any of the operations. Liverpool students, therefore, have him to thank for having introduced a new *régime*, and made it for the first time possible for them to obtain some knowledge of practical gynæcology.

William Frederick Cleveland

was born at Lowestoft, Suffolk, in 1823, and received his early education at Yarmouth. After an apprenticeship, extending over nearly five years, to a general practitioner in his native town, he entered, in 1843, as a student at Guy's Hospital, where he is said to have been held in high esteem by his teachers. On obtaining the diplomas of the College of Surgeons and the Society of Apothecaries, he joined a well-known firm of medical practitioners in the City. A few years later he settled in practice on his own account in Maida Vale, where he continued to reside up to the time of his death. In 1862 he took the M.D. degree at the University of St. Andrews, and was a member of the St. Andrews Graduates Association from the time of its establishment in 1867. He died in office as its President.

Besides conducting a large practice, Dr. Cleveland found time to take an active interest in various medical societies, and especially in the British Medical Association, of the Metropolitan Counties Branch of which he was, in 1890, elected President. After being President of the Harveian Society in 1870, he was selected in 1895 to deliver the Harveian Lectures before the Society, choosing as his topic "Induction and its association with the History and Progress of Medicine." He was one of the original Fellows of our own Society, served on the Council in 1863 and 1864, and filled the office of Vice-President from 1875 to 1877, and again from 1887 to 1889. He was a familiar figure in our meetings, and frequently took part in our debates. Among the many interesting cases and specimens that from time to time he brought before the Society may be mentioned a remarkable case of imperforate anus,

in which the child lived upwards of ten weeks without relief from the bowel after ten unsuccessful operations, and a series of specimens of a membranous cast discharged by a patient shortly after delivery on three successive occasions, which were reported by a committee, of which Dr. Galabin and Sir John Williams were members, to be almost certainly the decidua from the non-pregnant half of a double uterus.

Dr. Cleveland's death took place very suddenly on the 24th November, 1898. He had seen his patients as usual in the morning and was expecting two friends to dine with him. Whilst in the drawing room, a few minutes before their arrival, he suddenly fell down and died immediately, at the age of seventy-five.

Charles Egerton Fitzgerald

of Folkestone, was born in London in 1830, and after serving an apprenticeship to a medical practitioner in Bicester, entered as a student at St. Bartholomew's. He accompanied Lord Dufferin in his cruise to Iceland in 1856, and in 1857 he settled in Folkestone, where he established an extensive practice and became an active and valued member of the community. He helped to establish a local natural history and microscopical society, over which he presided for more than twenty years. When the Folkestone Medical Society was instituted in 1893 he was appointed its first President, and continued to hold that office up to his death. He was a man of wide interests and culture, and devoted much of his energy to the advancement of the welfare of the town of Folkestone. He died from perityphlitis on the 11th of December, 1898, at the age of sixty-eight. He had been a Fellow of our Society since the year 1882.

Alfred Kebbell,

who died at his residence, Flaxton, York, on December 21st, 1898, at the age of fifty-one, had been a Fellow of our

Society for eighteen years. He was a native of London, and received his medical education at the London Hospital, where he held the office of House Surgeon. Before settling in practice at Flaxton he held, for twelve months, a similar appointment at the York County Hospital. He had an extensive practice, and was one of the District Medical Officers of the York Union. He published in the 'Lancet' for August 5th, 1876, an account of a case in which a girl aged thirteen and a half years was delivered of a living child at full-term, and was the author of several other contributions to the same journal, and to the 'British Medical Journal.'

On the same day that Mr. Kebbell died, there died also another and younger Fellow of the Society,

ALFREDO ANTUNES KANTHACK,

the recently-appointed Professor of Pathology in the University of Cambridge. Professor Kanthack was born in Brazil, in 1863, and studied first at Hamburg and Luneberg, then at University College, Liverpool, afterwards in St. Bartholomew's Hospital, London, and St. John's College, Cambridge, and finally at Berlin. He became a Fellow of the Royal College of Surgeons in 1888, a Member of the Royal College of Physicians in 1892, and a Fellow in 1897. After graduating at the London University, he betook himself to Berlin, where he speedily distinguished himself as an original worker in pathology. In 1890 he went to India as a Commissioner appointed by the National Leprosy Fund, along with Dr. Beaven Rake and Dr. Buckmaster, to investigate and report upon the question of leprosy in that country. On his return home, he was elected John Lucas Walker student at Cambridge, and produced several valuable papers as the result of his year's work.

After a year passed in Liverpool as medical tutor and pathological registrar, he was appointed in 1893 Lecturer on Pathology at St. Bartholomew's Hospital. It was

while he held that post that he took part, as a Fellow of this Society, in the important discussion that followed the reading of a series of papers on deciduoma malignum. It is probably not too much to say that Dr. Kanthack's was the weightiest contribution made to that discussion. His speech was a masterly presentment of the case against the new term, argued from the standpoint, not of the specialist, but of the general pathologist. He expressed his firm belief that the (so-called) deciduoma was "a typical sarcoma, characterised by features common to many forms of sarcoma." "There was," he said, in his summing up of the evidence, "no proof that the deciduoma malignum was anything special or specific; in most cases it was a sarcoma differing in nothing from a sarcoma elsewhere, or possibly modified simply by the concurrent stimulus of pregnancy. There was no proof that pregnancy, abortion, or the retention of decidua or chorionic villi had caused the malignant growth. He saw no reason," he continued, "for accepting a novelty based partly on insufficient embryological knowledge and unsound pathological deductions, or partly suggested by specialistic prejudice." Dr. Kanthack further laid the Society under obligation by serving on the committee appointed to examine and report upon the specimens that had been presented. These were three in number; Mr. Rutherford Morrison's, Dr. Spencer's, and Mr. Malcolm's. The report, which appeared in the 'Transactions' for 1896, concludes with the statement "that in the opinion of the committee there is nothing in the histological characters of these specimens to justify the supposition that they are of decidual origin, and the term deciduoma malignum is therefore an inappropriate one." As the names appended to this report include, in addition to Dr. Kanthack's, those of Mr. Bland Sutton, Dr. Eden, Mr. Doran, Dr. Spencer, Dr. Griffith, and Mr. Targett, I need scarcely insist upon its importance.

In 1897 Dr. Kanthack left St. Bartholomew's to succeed Professor Roy at Cambridge, where his enormous capacity

for work, his remarkable acquaintance with the literature of his subject, his rare critical faculty, and his singular power of kindling a pathological enthusiasm in those who came within his influence, speedily led to his being regarded as an almost ideal professor, and an inspiring presence in the Medical Department of the University, where his loss is felt to be well-nigh irreparable.

And here my series of biographical sketches comes to an end. To the relatives and friends of those of whom I have thus endeavoured to present you with some slight memorial, these notices must inevitably appear bald, common-place, and inadequate, scarcely more than a meagre record of names and dates. To those, on the other hand, to whom the subjects of these sketches were unknown, it is possible I may seem to have erred in the other direction, and gone into unnecessary detail. I can but plead the difficulty of my task, and crave your indulgence for the very imperfect way in which it has been executed. I have at least endeavoured to ensure accuracy in my brief records, and to observe a due sense of proportion as regards their length. I have also tried, with what success I must leave my hearers to judge, to infuse into them something of a human interest.

And now all that remains for me to do is to say one word of farewell. My term of office is at an end. I thank you all and especially my fellow office-bearers for the help and support I have uniformly received in the conduct of the Society's business both in this room and in the meetings of the Council. Without such help and support the position of President would have been felt as a heavy burden, instead of which, by your kindness, it has been a source of pleasure. In resigning this chair, it is a satisfaction to me to know that its next occupant is to be one, of whose contributions to scientific gynæcology all British gynæcologists are justly proud, and whose irrepressible but never unkindly humour may be relied upon to relieve the dulness of even your very driest debates. I congratu-

late *you* and I congratulate *him*. The best I can wish him is that his tenure of this high office may be as pleasant and peaceful as mine has been.

Dr. Herman, in moving a vote of thanks to the President, said that he had to propose a resolution which consisted of two parts. The first related to the address they had just heard. He was sure they were all impressed with Dr. Cullingworth's diligence in getting at the facts concerning their deceased Fellows, and in studying the proceedings of the Society for the year, and with his discriminating appreciation of the work and character of the dead. The second part related to his conduct in the chair during his two years' Presidency. Dr. Cullingworth had been most regular and punctual in his attendance. Those who were on the Council could recognise his zeal for the best interests of the Society, and his grasp of its business. All who attended the meetings admired his dignity and urbanity in the chair, and valued highly the assistance in discussions which his great knowledge and experience had enabled him to give. Dr. Herman begged leave to propose—

"That the thanks of the Meeting be given to Dr. Cullingworth for his address, and that he be requested to allow it to be printed in the next volume of the 'Transactions,' and further thanks for the manner in which he has presided over the Meetings of the Society during his term of office."

This was seconded by Mr. Alban Doran, and carried by acclamation.

Dr. Griffith asked permission to propose that a copy of the regulations for midwives, which he understood had been drawn up with great care by the Council, and communicated to the midwives on the Society's register, should be sent to each Fellow of the Society; and further, he would suggest that it might be advantageous to submit them to a meeting of the Society.

It was of great importance at the present time that

the Fellows should not only be kept informed as to the action of the Council in this matter, but that every explanation should be given to those who desired it.

It seemed to him that there might be some who did not appreciate the strength of the feeling of antipathy and active opposition to the midwives question which exists among a large section of the profession, and to the action of this Society in relation to it, an action which they regard as a direct incentive to nurses to usurp the position of doctors, to undersell them, and to gradually oust them from the practice of this branch of work, and from the legitimate profits which they are entitled to receive from it.

Knowing how widespread this feeling is, it was certainly surprising that the reports of the Chairman of the Midwives Board should be received and adopted, as on the present occasion, by successive General Meetings, without a question being raised or a single dissentient vote.

There could be little doubt that this feeling was an important cause of the diminution of their numbers, to which the President had referred in his very able address, and no effort should be spared to render perfectly clear to all the action of the Society, which in his (Dr. Griffith's) opinion was based on the broad consideration of the welfare of the community in general, with every wish to aid and not to injure members of the profession.

A great deal of the opposition to it was fostered by, if not founded on, misstatement and misunderstanding, and this could best be avoided by open and complete explanation and discussion.

The PRESIDENT, in reply to Dr. Griffith, said that he understood his remarks to refer mainly to the Rules and Regulations for Midwives recently promulgated by the Council. He could assure Dr. Griffith that, so far from having any desire to restrict the circulation of these rules, the Council was anxious to secure for them the widest

possible publicity. The rules were intended, in the first instance, for the guidance of midwives possessing the Society's Certificate, and a copy had been sent to every midwife on the Society's roll. But in order to extend their usefulness, it had been arranged that copies could be obtained at the nominal price of one penny each from Messrs. Longman & Co., the publishers. They had been on sale ever since the month of July last. Every Fellow of the Society would presently have a copy in his possession, in the form of an appendix to the forthcoming volume of 'Transactions.' In order to call attention to the fact that the rules were contained in the volume, an announcement to that effect would appear in the form of additional gilt lettering on the cover.

With regard to the attitude of a certain portion of the profession towards the Society's examinations for midwives, he (the President) was glad to hear that, in spite of the observations Dr. Griffith had felt it his duty to make, he himself was quite in accord with the Council in this matter, and believed the Society to be engaged in a proper and useful work. In drawing up the rules the Council had formed itself into a committee of the whole Council, and had gone over them again and again, revising and re-revising them with the most minute care. Whatever fault might be found, therefore, with the rules (and the Council was not so foolish as to suppose that it had succeeded in producing a faultless code) it could not be said that they had been issued carelessly or hastily, or without a due sense of responsibility.

In reference to the general question of the Society's action in regard to the training and examination of midwives, it was quite open to Dr. Griffith to take steps for the summoning of a special meeting of the Fellows to consider it, if he thought such a course desirable.

MARCH 1st, 1899.

Alban Doran, F.R.C.S., President, in the Chair.

Present—45 Fellows and 5 visitors.

Books were presented by the American Gynecological Society, the staffs of St. Bartholomew's and Guy's Hospitals, Sir Henry W. Acland, the Société des Sciences Médicales de Lyon, Dr. Cullingworth, and Dr. Frommel.

William Josiah Smyly, M.D., F.R.C.P.I., was admitted a Fellow.

Walter Andrew Bowring, F.R.C.S.Eng. (Brighton), was declared admitted.

The following gentlemen were proposed for election:—Cuthbert Lockyer, M.D., B.S.Lond., F.R.C.S.; Herbert Williamson, M.A., M.B., B.C.Cantab.; Albert W. Bowie, M.B., C.M.Edin.; Charles Walker, M.D.Lond.

The following gentlemen were elected Fellows of the Society:—Francis Arthur Osborn, L.R.C.P.Lond. (Dover); Harry Jackson Watson (Toronto); David Charles Rayner, F.R.C.S.Eng. (Bristol).

THREE MYOMATOUS UTERI REMOVED *PER VAGINAM* BY DOYEN'S METHOD.

Shown by W. J. Smyly, M.D. (Dublin).

The indication for operation in all the cases had been hæmorrhage.

The first specimen had been removed from an unmarried woman aged 42, a clerk in a telegraph office. Six years previously he had removed a pedunculated myoma from the same patient with temporary benefit. When admitted to the Adelaide Hospital, in September, 1898, she was in a condition of profound anæmia. The uterus was dilated and explored, but nothing removable was discovered. After some weeks spent in endeavouring to improve her condition the uterus was extirpated on November 14th. She made a rapid recovery, and has resumed her former occupation. The second case was operated upon on January 14th of the present year. The patient, aged 41, had borne two children; convalescence had been delayed by phlebitis of the right saphenous vein, but she was now nearly well. The third patient was also a married woman who had borne children. The uterus was extirpated on February 2nd of this year, and the patient made a good recovery.

Adding these three cases to the seventeen which he had reported at the Edinburgh meeting of the British Medical Association made a total of twenty cases operated upon by this method, with one death—a mortality of 5 per cent.

The President wished to know why Dr. Smyly preferred the vaginal operation. When a fibroid uterus was small, retroperitoneal abdominal hysterectomy was usually easy, or if diffi-

cult the trouble was due to burrowing of part of the growth in the broad ligament, and in such a case the large vessels could only be secured with safety from above.

Dr. Peter Horrocks asked whether it would not have been possible to enucleate the fibroids without removing the uterus as well.

Dr. Galabin asked what view Dr. Smyly held as to the relative chance of adhesions being produced after the vaginal and abdominal operations. He thought that if abdominal hysterectomy were carried out after Baer's method, and the stump completely covered in by peritoneum stitched over it, there was little chance of any adhesion following. But in the vaginal operation, if the peritoneum was left unstitched, and a plug placed in the vagina, it seemed probable that in many cases, at any rate, the gap must be closed by the coil of intestine next the plug becoming adherent.

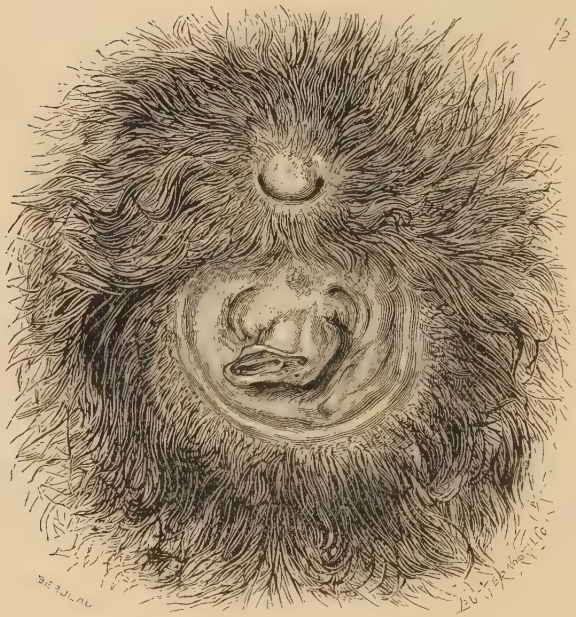
In reply, Dr. Smyly said the advantages of the vaginal method were that shock was less, convalescence more rapid, and the mortality less than after abdominal hysterectomy, and there was no abdominal wound which might cause intestinal adhesions and develop a hernia. He believed that adhesions of the intestine and consequent ileus were less frequent, and that the pelvic floor closed perfectly. He did not think that in any of his cases the uterus could have been saved.

AN ACARDIAC FROM A COW.

Shown by J. Bland Sutton, F.R.C.S.

Mr. Horn, surgeon, of Wallingford, sent this specimen to me with a letter to the effect that he received it from a farmer whose cow had calved, and when the "after-birth" was discharged "it had this hairy ball attached to the membrane by a navel-string." The veterinary surgeons and local doctors were puzzled to account for it.

It is, as the drawing shows, an acardiac, and in veterinary literature is often termed an "anidian monster."



An "acardiacus" from a cow: the "anidian monster" of veterinarians.

I had it skiagraphed, but was not successful in detecting bone. It will find an abiding-place in the unique teratological collection at the Royal College of Surgeons.

AN UNUSUAL EXAMPLE OF RUPTURE OF AN OVARIAN ADENOMA.

Shown by J. Bland Sutton, F.R.C.S.

Some years ago I exhibited to this Society some specimens for the purpose of demonstrating that many

ovarian adenomata (multilocular glandular ovarian cysts) are lined with mucous membrane, and the glandular elements furnish mucus. I have also pointed out that when a loculus of such a cyst bursts into the belly cavity, the colloid stuff which escapes, though tolerated by the peritoneum, is not absorbed. In many cases the rent in the tumour is not repaired, but the glands in the wall of the burst loculus continue to secrete mucus, which escapes through the opening into the general peritoneal cavity, and often accumulates so abundantly as to simulate ascites; it obscures the outlines and masks the physical signs of the tumour.

The most extraordinary example out of twenty-five ruptured colloid cysts which have come under my notice is the one I exhibit this evening.

The patient, a very emaciated woman of fifty-four years, complained of enlargement of the belly, which has been slowly but painlessly increasing for a year. There was a prominent umbilical rupture as big as a bantam's egg, and a hernial protrusion at the left femoral ring. The physical signs over the distended belly were those characteristic of hydroperitoneum. On vaginal examination an irregular rounded swelling could be made out in the pelvis. On the facts before me I came to the conclusion that the case was one of papillomatous cyst of the ovary, complicated, as such cysts are when they rupture, with free fluid in the belly. I advised, without any hesitation, cœliotomy. Dr. Barber Wells, who was in charge of the patient, suggested that the condition was due to rupture of an ovarian cyst.

The operation was carried out. On incising the parietes the belly was found crammed full of colloid stuff of the consistence of treacle. After scooping out three gallons of this inspissated material the tumour was withdrawn, and its long thin pedicle secured with a silk ligature. The tumour equalled a cocoa-nut in size, and presented a large rent across its surface, opening several loculi. The belly had become so stuffed with the colloid

material that the pressure had produced the hernial protrusion at the umbilicus, and at the left femoral ring the sac in each situation contained inspissated material of the consistency of soft soap. The viscera were carefully wiped with sterilised dabs of Gamgee tissue, and the wound secured with sutures. Recovery was uneventful. Portions of one of the prominent loculi were removed and examined microscopically, and its wall is beset with a single layer of regular columnar mucinous cells.

I exhibit the specimen because it demonstrates better than any specimen I have seen hitherto that the mucus contained in this woman's belly was the result of the continued discharge of secretion into the peritoneal cavity many months after rupture of the wall of the tumour.

The PRESIDENT said that Mr. Bland Sutton's case certainly accounted for alleged "disappearance of malignant metastases" after an exploratory operation.

Dr. GALABIN asked what view Mr. Bland Sutton took of the ultimate prognosis when, in such a case, metastatic growth was set up by the effused fluid. In a similar case, about two months ago, he had found the peritoneal cavity distended by thick gelatinous fluid from a ruptured ovarian cyst of moderate size. Similar gelatinous material was growing from the peritoneum over a wide surface—abdominal walls, intestines, mesentery, and pelvis. A good deal of it had to be left, as it could not be detached without causing profuse bleeding from the peritoneal surface. He closed the abdomen without much expectation that the patient would ever recover from the operation. She did so, however, without any disturbance, and so far there was no recurrence of effusions. He was in doubt whether there was any hope of the peritoneal growth dying out, as a papillomatous growth sometimes did in similar circumstances.

FIBRO-MYOMA OF VAGINA (ANTERIOR WALL).

Shown by J. H. TARGETT, M.S.

THE patient was a cook, aged 34, single, always regular. She had noticed a discharge from the vagina for three

months, and latterly it had become offensive. A swelling gradually made its appearance in the privates, and eventually protruded for a short distance from the vulva. The surface of this swelling soon became sore, and this caused the offensive discharge. There had been no pain on walking or on defæcation, and micturition was not impeded. Of late the discharge and the constant application of diapers had caused a little irritation of the vulva.

On examination the genitals presented a remarkable appearance. A cylindrical tumour with a somewhat bulbous extremity projected from the vulva. The general features of this tumour are depicted in the accompanying sketch. Its base was attached to the anterior wall of the vagina, and the lower margin of this attachment was within half an inch of the base of the vestibule. The tumour was about 2½ inches in length and 1¼ inches in diameter; its free extremity presented a rounded cap of dark greenish material due to sloughing of the tissues of the tumour. The cervix uteri was high up and difficult to reach, but it was normal, and there was a distinct interval between it and the attachment of the tumour to the anterior vaginal wall.

The tumour was removed with scissors, the vaginal mucous membrane being cut through round its base, and it then shelled out easily. There was smart hæmorrhage from vessels in the vaginal wall, but none from the bed of the tumour. The vaginal incision was closed with ten salmon-gut sutures, and the passage lightly plugged with gauze. The sutures were removed on the eighth day, and a good recovery ensued.

On section the tumour had the usual appearances of a fibro-myoma except at its free extremity, where it was œdematous from the superficial ulceration and gangrene of the exposed part. It had a distinct capsule of fibrous and muscular tissues, and on stripping this off the surface was nodular in some parts. As far as could be determined at the operation, the tumour had originated in the wall

of the vagina, and certainly it had no connection with the uterus, bladder, or urethra.

Remarks.—Dr. John Phillips has so recently considered the subject of fibro-myomata of the vagina that it is unnecessary for me to do more than refer to his article ('Brit. Med. Journ.,' February 4th, 1899, vol. i, p. 262). He has called attention to the free hæmorrhage which may occur in the removal of such tumours, and to the difficulty of diagnosis from a vaginal cyst. A case under

observation at the present time illustrates this difficulty, for there is a swelling in the anterior vaginal wall which has the characters of a cyst, but on tapping has proved to be solid. It is moveable, very slowly enlarging, painless, and so far the patient has declined to have it excised.

In consequence of its bulging into the vagina, and the presence of a large hymen, there is some retention of menstrual fluid, which at times produces an offensive discharge. The uterus, bladder, and urethra are normal.

I have also examined some three or four similar specimens which had been removed by operation from the anterior vaginal wall, but none of them approached the size of the tumour exhibited this evening.

A CASE OF DIFFUSED SUBCUTANEOUS INDURATION IN AN INFANT.

Shown by Mr. A. Lionel Smith (introduced by Dr. Dakin).

The child was born on January 17th, 1899. It was a breech case with extended legs, and was arrested high in the pelvic cavity.

Traction on the groin had already been tried, so a leg was brought down. Both arms were extended, and were brought down with considerable difficulty. The child, which was a male and very large, probably weighing between nine and ten pounds, was greatly asphyxiated, but recovered after prolonged artificial respiration.

The child was next seen a week later; it then had diffuse thickening of the tissues immediately beneath the surface, down the outer side of each arm as far as the elbow. The swelling was dark red, looked bruised, and was evidently tender; there was the same condition in each groin.

The child had lost considerably more weight than is usual, and was very fretful; the limbs and extremities were cold.

The condition was at first taken to be one of subcu-

taneous hæmorrhage due to injury at birth. The mother stated that the condition came on during the first two days after birth.

The child was seen at frequent intervals till February 27th, and during this time the thickening appeared to be decreasing, and the general condition improved greatly.

When seen on February 27th there was considerable thickening of the skin and subcutaneous tissue on the front of the chest, especially on the left side, over the back down to the lower dorsal region, over the sacrum, around the thighs, and down the backs of the calves.

The swelling did not pit on pressure, and in places was mottled dusky red ; the mottling was not situated specially over the margin of the induration, nor was the edge of the induration in most places a defined one. The skin of the face and head and the mucous membrane of the mouth appeared to be normal. The temperature was then 98·6°, and the weight 9½ lbs.

During the next two days there appeared on the indurated surface of the left arm two yellowish nodules, which were about ¼ inch in diameter, and projected about ⅛ inch ; they were softer in texture than the area on which they developed.

The mother was healthy, aged thirty-six years, 8-para, had had no miscarriage, had no skin affection, nor was there any such in any member of the family. There was no history of rheumatism or specific disease. The father was healthy and a sober man.

In several respects the case differed from the usual form of œdematous sclerema, and seemed more to resemble sclerodermia. The child will be kept under observation, and any further development will be communicated to the Society.

Dr. Heywood Smith said he had a similar case under his care a few years ago which he exhibited at Mr. Jonathan Hutchinson's clinic. The induration was very marked and thick, and involved the back of the neck, all the back, the

buttocks, back of thighs, and back of the upper arms. It yielded in about six months to mercurial inunction. The disease is much more common in Germany, and in Dr. Smith's case the father was a German and the mother English. The child should be kept well wrapped up and thoroughly warm. It is well to apply friction constantly before a warm fire.

FIBRO-MYOMA SPONTANEOUSLY ENUCLEATED DURING LABOUR.

Shown by W. R. Dakin, M.D.

The case was seen by Dr. Dakin with Dr. Sidney Mugford on the fourth day of lying-in, on account of excessive discharge of altered blood.

The specimen was then an irregular discoid mass, consisting apparently of fibrous tissue and tough clot. It was about five inches in diameter and one inch thick; its surface was in some places smooth and in others ragged. There was no recognisable mucous membrane on any part of its surface. The history was as follows:

The patient began to menstruate at twelve years of age. Menstruation was scanty. There was no change in its character except that it had become painful during the last six or seven years. She married at twenty-five, and became pregnant for the first time at thirty-two, and at the labour of this pregnancy the specimen was obtained.

Labour at term began at 6 a.m. and went on till 10 a.m., when the membranes ruptured spontaneously. Four ounces of blood were lost just before rupture. On examination a mass which resembled a placenta prævia was found just inside the internal os. It covered the os and projected slightly through it. There was no bleeding. At 12 midday the pains were regular and strong, but there was no progress.

Dr. Mugford now found the mass lying across the fully

dilated os, and it was easy to pass the finger between it and the edge of the os, there being no adhesions as far as he could reach. On passing the finger in front of the mass he at once touched the vertex. He found that on pulling gently with the finger the mass could be withdrawn, and this was done. The head now came into the os, and labour was completed naturally.

There was considerable oozing from the cervix after labour. For a few days she had a very free discharge of dark brown fluid containing flakes of broken-down tissue. When Dr. Dakin examined the cervix he found a distinct cavity at the level of the internal os posteriorly and extending a little above this, with a ragged surface. The uterus was otherwise normal. The discharge gave place to the natural lochia on the following day. She was kept in bed for three weeks, and with the exception that the next two menstruations, which occurred at the two following months, were rather free, there was nothing to note.

Microscopically the mass proved to be a fibro-myoma. The tumour had no pedicle, and, as has been said, was not covered by mucous membrane. It was therefore almost without doubt enucleated during the first stage of labour. It was probably interstitial, since there had been no menorrhagia, and it was extruded from its capsule by the stretching of the cervix and lower uterine segment during dilation.

Numerous cases are recorded of labour being obstructed by fibroids. In our own 'Transactions' Braxton Hicks mentions one artificially enucleated (vol. xii). Playfair, in vols. xix and xxii, records cases where he was able to push such tumours up; and W. H. Day, in vol. xxvii, describes another artificially enucleated during labour.

Cases of spontaneous enucleation during labour must, however, be uncommon.

INAUGURAL ADDRESS

ON

GYNÆCOLOGY IN RELATION TO SURGERY.

Gentlemen,—Owing to the very nature of things, the polite observations which it is the duty of every newly elected President to make before the Society when he begins his Inaugural Address do not allow free scope for originality of treatment. I happen, however, thanks to your favour, to be unusually fortunate. In electing me the Society has given me a rare opportunity for beginning my address with an original remark. Though the twenty-first of your Presidents, I am the first surgeon to take the Chair, the first President selected from the ranks of those academically humble persons who hold no University degree. Therefore I must thank you with a gratitude which ought to be deeper than that which was felt on a similar occasion by any of that noble twenty who have preceded me. With me the Society has literally begun a new score ; I trust, therefore, that when my term of office has come to an end I shall not leave any old scores to be wiped out.

I feel, gentlemen, however, that in selecting me you are complimenting my art rather than myself. I shall therefore devote this address to Gynæcological Surgery, dwelling specially on its relation to this Society and to the principles of surgical art and science in general.

Gynæcology in the First Year of the Obstetrical Society of London.

I am sometimes asked, "What is the *good* of a society?" and usually reply that I presume that the questioner is a pessimist, and looks on such an institution as an illusion. But some persons hold the same view of love and glory. Experience shows, however, that these two abstractions have deeply influenced men (and women) in general, and it also shows that societies have deeply influenced their members in particular. The influence of the Obstetrical Society of London on gynæcology has been great, as I will now remind you, and has extended beyond its Fellows.

From the first this Society was understood to devote itself to the advancement of the knowledge of Obstetrics *and* the Diseases of Women and Children. So said Dr. Rigby when he took the chair at the inaugural meeting of the Society, held at the Freemasons' Tavern, December 16th, 1858. He further added by the way, "The new Society would be eminently useful to general practitioners, most of whom have daily brought before their notice facts which the Society might be the means of registering." Dr. Rigby referred to midwifery, but the same observation applies to gynæcology, and the practitioner enjoys more advantages now than in 1859. The resources of science are more accessible to him, his professional education is, as a rule, sounder; hence we are justified in calling on him for the invaluable aid which he can afford us in the observation of acute and chronic, but more especially chronic, disease of the female genito-urinary tract. After-histories, so important to all who undertake surgical operations, come within his province; in hospital and special practice cases are too easily lost sight of. Dr. Rigby, as well as Dr. Tyler Smith, who seconded him, joined diseases of children with those of women. By "children" sucklings and

female children are understood, and I may mention the recent researches of Dr. Robinson to remind you what excellent work may be done in this field. Dr. Routh, at the same Inaugural Address, distinctly turned attention to the consideration of children's diseases. "How many lives of young and interesting children," he said, "were daily sacrificed by prescribing chemists and druggists! By pointing out the difficulties in the treatment of children's diseases this source of evil might be removed." Dr. Routh's advice is still needed. Now observe that as I wander through the first pages of our archives I soon get off the very narrow track of gynæcology. Sir William Fergusson spoke at this very meeting, but entirely on the elevation of obstetrics. The greatest British surgeon of his day said not a word on operations for the relief of women's diseases; yet Sir Spencer Wells, who had already started in his career as our ovariotomist, was actually present at the meeting. Nor when the Society was at length launched did Dr. Rigby dwell on gynæcology in his address delivered at its first meeting, on January 5th, 1859. His theme was obstetric practice, yet he uttered a prophecy which applies as much to gynæcology in relation to our Society as to obstetrics, and we have verified it in respect to both.

"A time will come, I feel assured, when the Obstetrical Society of London, with the prodigious advantages which are afforded it by our enormous population, and by the large and united body of its intelligent members, will possess treasures of knowledge far exceeding those of any joint-stock bank of science of the present day, and which will place it on a more enduring basis, and enable it to pay richer and more permanent dividends of science than any of those similar institutions of our monied brethren. We shall have a numerous list of fact-collectors and depositors, not only from every county of the United Kingdom, but also from our foreign members, and still more from the many correspondents in those

extensive colonies over which the sun never sets, all contributing vast funds of scientific facts and priceless knowledge, gleaned from varieties of the human race living under every modification of climate, habits, and grades of civilisation; and furnishing us with such an amount of accumulated science as will raise this Society to the loftiest pinnacle of dignity and importance."

This somewhat florid prediction of Dr. Rigby's has come true. He little knew—which is a form of speech signifying that he did not know at all—how near was the advent of ovariotomy as an established operation. I need not criticise the "minor gynæcology" and "gynæcological therapeutics" of 1859; we have improved, as our successors will improve on us. Nor need I remind you of the earlier triumphs of McDowell, Jeaffreson of Framlingham, and Clay.

It is the gynæcological work of the Obstetrical Society with which we have at present to do. Charles Clay himself could not justly complain that we disregarded his early labours. Putting aside Graily Hewitt's communication on a special trocar for the diagnosis of ovarian cystic disease—which, by the way, was used, we are informed, in a case "under the care of Mr. Spencer Wells,"—the first paper seriously treating of ovariotomy is by Clay, and stands as the twenty-third paper in our first volume. It is true that the main subject of Clay's communication is not treated in a satisfactory manner by its author, who declares that in the middle of May, 1859, ten days after a patient's delivery, he "drew off nine pounds of a greasy chocolate-coloured fluid having a very faint urinous smell" on passing the catheter, the patient having been long under his care for an ovarian cyst. Then Clay tells us that she continued to improve "up to this date," July 6th, not two months afterwards. Our predecessors were, after all, sometimes in a hurry, as we often are now. Still Clay proceeds to relate how he had successfully performed ovariotomy two months after delivery, the patient bearing

children after her recovery—a brilliant case for those days and an ornament to our earlier pages.

In the third volume, however, gynæcology, so neglected in the two inaugural orations, already comes to the front. It is no longer in the background, but takes up a respectable proportion of the text; not only do we read of fibrous polypi, hernia of the ovary, &c., not only did Dr. Robert Barnes point his finger to pathological conditions now so familiar to us, in his "case of peritonitis caused by escape of pus or putrilage (*sic*) from the Fallopian tube into the abdominal cavity, following on abortion artificially induced," but Spencer Wells, Tyler Smith, and others now began to discuss their progress in ovariotomy well in earnest. From then till the present moment our Society has ever been distinguished for its gynæcological work.

The Present Position of Gynæcological Science.

Without doubt, gynæcology is an established speciality. Its foundations are now firm. The patient study of the diseases of women involves a very sound clinical training. That table in front of me has borne witness what great advances have been made in the pathology of the female genital tract, and long may that table remain pathological! Our interest in pathology continues unabated. You all remember the Homeric contest between Mr. Bland Sutton and myself about tubal clots and chorionic villi. I must say that obstetric pathology has been slower in development. We are all interested in that strange phenomenon, the awful appearance of deciduoma malignum on the medical stage. Dr. Eden, a leading authority on the histology of the products of conception, has warned us that specialists working in this field must begin with a sound practical knowledge of general histology and pathology lest they should mistake general for special conditions, sarcoma for syncytium, whatever that precisely

means. We constantly need a general pathologist to check our theories in these matters, and we had such a one who did us that service on a memorable occasion. But, alas! Professor Kanthack is no longer amongst us.

Gynæcological Surgery, its Triumphs and its Abuses.

The proudest boast of general gynæcology, however, is that general surgery is perhaps more indebted to it than it is indebted to general surgery. Pride is dangerous, and I will presently note how, just as some persons are apt to believe that law is identical with justice, so gynæcologists are in danger of thinking that operating necessarily means surgery. Yet ours is a proud boast, though our work is too well known here to require any long summary. Ovariotomy is ours in history. It revolutionised abdominal surgery. It opened up unknown fields alike to the general surgeon and the obstetrician. Witness nephrectomy and cholecystotomy. Remember what Cæsarean section and extra-uterine pregnancy once meant, and what they mean now. Yet let us not be carried away by our subject; this good work was not done by boasting. I will "fall somewhat into a slower method," like Richard, Duke of Gloucester, and devote the remainder of this address to gynæcological operations; endeavouring to distinguish those which are undoubtedly good surgery, those which are sometimes good surgery, and lastly those which seem more or less questionable.

Uterine therapeutics and minor gynæcology.—I need not dwell on "uterine therapeutics" and "minor gynæcology;" many abuses, we know, have been associated with these expressions, but the same can be said of the terms "medicine" and "surgery." They largely correspond to dressing and bandaging as taught by every good house surgeon. When parts have to be explored, they must be exposed as much as their anatomy permits, consistently with the safety and sensitiveness of the patient. When douching is needed the best form of douche should

be used, and it will be well if douches be yet improved upon by skilful mechanicians. Artificial support is certainly needed in most cases of bad displacement. The laws of scientific surgery forbid us to say "Leave such cases alone, and tell the patients that the symptoms are all imaginary;" nor, on the other hand, will it urge us to use the knife and the suture-thread for all flexions and prolapses. Thus the middle course, artificial support, is often indicated. There will always, I suspect, be some kind of pessary in use, though there are still great objections to every form now in vogue, and therefore great room for improvement.

We must never fail to remember and to teach that, as in the case of the abscess-knife and the catheter, "minor" proceedings with the curette, the sound, and other special instruments are liable to kill if clumsily performed, and under many circumstances are not free from danger even when undertaken by men of skill and experience. It is especially in uterine therapeutics and "minor" gynæcology that certain methods in fashion are apt to be unduly relied upon. Once caustics were freely used in chronic metritis; the curette is now held by many to be the right instrument to employ in that disease. Delbet, however, an accurate observer, now declares that he has gone back to chloride of zinc as an agent superior to the curette and less dangerous.

Let us now, however, accompany gynæcology in its higher flights, and consider the present position of gynæcological science.

Plastic surgery.—The plastic surgery of the female organs was already understood when the Society was founded. As early as the beginning of Her Majesty's reign Fleming and Marshall Hall reported their new method of performing anterior colpotomy. In 1859 Marion Sims was a well-known man, famous for his skill in the repair of vesico-vaginal fistula; it is our progress in obstetrics that we have to thank for having such few opportunities of performing that operation now-a-days.

Several well-known Obstetric Fellows practised repair of the ruptured perinæum in 1859. This operation has been much simplified, and there has been great advance in surgical procedures of this class. I have been referring to the plastic surgery of the vulvar and vaginal region only. As for that branch, as I may term it, which is more or less intra-peritoneal, it includes many remarkable operations of recent invention, but many of us must doubt whether they indicate "advance" or "progress," and whether they mean surgery as well as operating. I intend to dwell presently on some evident abuses in this direction. I admit in my own experience that abdominal hysteropexy is in some cases, and with certain precautions, a good surgical procedure, but I know that it may be grossly abused.

Vagino-abdominal surgery.—The removal of the uterus through the vagina comes under surgical novelties. In cancer, when not too advanced, this operation seems to be good surgery, measured by the cancer practice of the general surgeon of the day. The mortality is low, at least. I find that Dr. Halliday Croom, in his inaugural address recently delivered before the Obstetrical Society of Edinburgh, is disposed "to think that the surgical method of dealing with uterine cancer has done little either to ameliorate suffering or to prolong life, and that once a uterine cancer is recognised palliative local measures and a happy euthanasia through morphia are the best solutions of the difficulty." This statement was repeated by Dr. Halliday Croom, on the strength of personal experience, at the meeting of the Edinburgh Obstetrical Society held just three weeks ago. Out of 200 cases of cancer only fourteen were operated upon, as the cancer was in an early stage and strictly limited. Yet in all the disease returned, and he believed that the women's lives had been shortened, and that they suffered more than the patients on whom no operation was performed.* I do not think that our experience of hysterec-

* See 'Edinburgh Med. Journ.,' March, 1899.

tomy for cancer is quite so gloomy, especially as regards the patient's sufferings after the operation. Most of us find that the local condition is ameliorated. We must not, however, forget that the going through an operation is, to say the least, a disagreeable experience, even for a patient with a trifling complaint. Hence, though much has been said here about uterine cancer and operation, perhaps we might advantageously gauge the merits of surgical interference once more. The hopeless cases urgently require the assistance of our art for palliative measures. I may, therefore, mention the recent experience of Westermark of Stockholm, for which he claims satisfactory results. He scrapes clean the cancerous area in the cervix, and fits into the chasm a small Leiter's coil, through which hot water is passed for a prolonged period, on the principle of the constant heat system so valuable in the treatment of syphilitic phagedæna.

Ovariotomy.—We all know how the exertions of Clay, Spencer Wells, and Keith not only established this operation, but likewise started the wonderful recent developments of abdominal surgery. The operation afforded the surgeon invaluable experience in the cleansing of the peritoneum, its effective drainage (a very grave question, not yet settled), and the flushing of the peritoneal cavity, for which we were originally indebted to Mr. Lawson Tait, though since he introduced this valuable resource its utility has been found even greater than he ever suspected it to be. Shortly after flushing became generalised it was noticed that it acted like a transfusion, as well as serving as a hæmostatic, a remover of noxious fluids and solids, and a counteractor of shock. Indeed, transfusion and flushing have been inextricably mixed up since the actual danger of blood and the value of water artificially introduced into the circulation have been demonstrated by experience, and since other methods besides intra-venous transfusion have proved effective. In solving this transfusion question, obstetrics, gynæcology, and our Society have played a conspicuous part. To

the first volume of our 'Transactions' Dr. Charles Waller contributed a monograph "On Transfusion of Blood," with drawings of the instruments which he employed for the purpose, whilst in our thirty-fifth (1893) is to be found Dr. Horrocks's valuable contribution on "Intra-venous Injection of Saline Solution in Cases of Severe Hæmorrhage." Once more, with ovariotomy and its developments are closely blended antiseptic and aseptic surgery. I need not dwell further on the operation, it is so familiar to you. It may be a simple proceeding, but even then ligatures may yield, or tetanus or some more frequent complication may cause death. The youngest and the most experienced must alike remember the words of a French operator, "*Faire une ovariotomie c'est marcher vers l'inconnu.*"

Operations for diseases of appendages due to inflammation.—We now come to a class of cases where a skilful and successful operation may be decidedly bad surgery, or else questionable surgery, or else very good surgery. The remarks which I am about to make on this subject were suggested by the instructive "Discussion on the Surgery of Pelvic Inflammation," introduced by my predecessor, Dr. Cullingworth, in the section of obstetrics and gynæcology at the Edinburgh meeting of the British Medical Association, last August.*

Inflammation of the parametritis or cellulitis type usually subsides under appropriate medication. The formation of abscess, its position, and the proper surgical treatment have long been known. It is quite wrong to hurry on surgical interference in ordinary puerperal cellulitis. Two authorities, very different in their opinions and practice, are, I am glad to find, practically in accord on this point. Sir William Priestley says, in a tone of just censure, "I have known the uterine appendages removed for matting together of parts by pelvic cellulitis and peritonitis after delivery, because the patient was too impatient to wait for the slow recovery which would have taken place

* Published in the 'British Medical Journal,' vol. ii, p. 461.

in due course." On the other hand, Doyen of Rheims simply states that in extra-peritoneal pelvic suppuration "it is well to make an immediate opening above the crural arch" when the abscess points in the iliac fossa; whilst he teaches that "purulent collections low down in the broad ligament may be advantageously opened by a *lateral colpotomy*"—that sounds formidable, but let us read on—"by plunging into the inflamed ligament a long forceps, and emptying the abscesses that lie low down close to the uterine artery. I have done that operation several times with success, and it is a very simple one for a surgeon who is accustomed to do vaginal hysterectomy." But M. Doyen simply means that a pelvic parametric abscess is best opened after what we call Hilton's method. No mutilation is practised, and the pus can escape, which is the aim of the operation. Even old neglected cases with sinuses hardly call for special operative treatment. We all know how overworked and sickly women among the poor come to out-patient departments with the uterus fixed in firm deposit, yet after a few weeks that organ is often found quite moveable.

Our principles of treatment should be at first much the same in inflammation of the tube and ovary. Many ladies and workwomen recover perfectly in spite of their carelessness or inability to get proper rest. I find that puerperal and gonorrhœal disease of the appendages may alike disappear almost spontaneously, and regret to read of opinions implying that they cannot do so. A tender, moveable ovary should never be removed forthwith; a tender but recent fixed mass in the pelvis should never be opened or exposed by the knife until after the effects of medical treatment have been carefully watched. The case is quite otherwise when inflammatory disease is chronic with a reliable history. Exploratory incision is often needed. The surgeon should never hesitate to leave the ovaries and tubes if they be found not so much diseased as to demand removal. I have seen perfect

comfort and complete restoration of function follow in cases where I have liberated the appendages from old adhesions which bound them firmly down in the pelvis. The operator is wrong who decides to remove the liberated appendages because "it looks so bad" to do an operation and take nothing away. I am glad to see that Landau, in his tables of cases of vaginal cœliotomy, which I will show presently to be unsatisfactory in one respect, demonstrates at least that he does not always cut something away. Thus in a case of "perimetritis and right peri-oöphoritis," and in another specified as "chronic pelvic peritonitis," the tables state that "separation of adhesions" was all the operating done besides the incision through the vagina.

There is yet another vicious principle which teaches that when the appendages are removed on one side they must be removed on the other. I have frequently amputated a suppurating tube and ovary, leaving those on the opposite side because they were healthy, or only required to be delivered from the bondage of adhesions. The patients were not only restored to health, but in several instances bore children within a year or two of the operation. I find once more that Landau does not sacrifice both appendages in his vaginal cœliotomies; I know that the operation in question is not recommended by him for the extirpation of inflamed appendages, but at present we have only to consider the fact that this distinguished German operator places many unilateral operations in his tables of vaginal cœliotomy.

Bad cases of bilateral pyosalpinx seem to demand removal of both tubes. The operation is always serious, and convalescence is but rarely quite smooth. The relative merits of vaginal and abdominal operation are still under debate. The great enemy of success in these cases is the stump, so often unhealthy. I usually touch it with tincture of iodine, and sometimes sew the serous membrane over the raw surface. Unfortunately the ligature may be infected, as the connective tissue of the

broad ligament through which it passes may contain septic foci. But removal of the uterus with the suppurating appendages always seems to me to be a grave step not absolutely justified. Its advocates note that the after-histories of cases of simple oöphorectomy are unsatisfactory, but do not seem to furnish us with convincing after-histories of cases where the uterus is also sacrificed. Even Doyen, a great expert in hysterectomy, states, "Is it rational to practise ablation of the uterus, by laparotomy, in any case of bilateral suppuration of the annexa? I have never thought that it applied to all suppurating salpingitis, but that it was an exceptional operation to be used in certain well-defined cases. When the uterus is healthy and not painful, and when its ablation in women much reduced in strength may lead to an aggravation of their state, it should be left in its place. . . . . In certain cases of salpingitis the uterus was found useful in closing the pelvic cavity by attaching it by a continuous suture of fine silk to the mesenteric folds adjoining." I will not discuss the foreign theory that in vaginal oöphorectomy, at least, the uterus should be sacrificed.

It is the duty of the surgeon to make sure that his patient does not merely recover from the operation. I have already referred to Landau's vaginal cœliotomies. He admits that "in the hands of an unscrupulous operator it may become a terrible scourge." He is right to warn us, but in his own tables over twenty cases were performed within eight months of their publication, eight within six weeks, nor is there a single after-history; yet the greater number of the operations were for salpingitis or oöphoritis. Another undoubtedly able foreign operator registers 424 "cures" out of 432 extirpations of the uterus and appendages through the vagina, and 95 "cures" out of 98 extirpations of the uterus and appendages through an abdominal incision, all for suppuration. "After an experience," says this authority, "of several hundred cases, after very strict study of the results of

operation, I find that the risk of operating is not greater by one way than by the other." This is a very definite statement, but why does not this experienced operator let us know his definition of the word "cure"? Out of a total of 519 recoveries, what a valuable series of two years' histories we hope to hear of! Do the patients suffer from an artificial menopause? Do the pieces of tubal tissue inseparable (not rarely the case) from the serous coat of large and small intestine *never* give trouble? The operator's "very strict study of the results of operation," which, as we have seen, refers to "the risk of operating" should be complemented by what is more important, a yet more "strict study" of the after-effects of operation. The British gynæcologist would also like enlightenment about another matter; what are the local causes of pelvic inflammation so severe that one operator in a relatively small town finds it necessary to remove appendages and uterus in over 500 cases, for the cure of that disease? In London all the immediate and predisposing causes of inflammatory disease of the tube and ovary are present in force—neglected childbed, neglected abortion, gonorrhœal infection, enteric fever, and carelessness or exposure to prejudicial influences during menstruation. Yet few, if any, of us find it necessary to proceed so frequently to such an extreme measure as total extirpation of the uterus and appendages.

In this country we believe that if we remove the appendages with or without the uterus in every average chronic case of tubo-ovarian inflammation, we should undoubtedly sacrifice many appendages that would have recovered under less radical treatment. Nevertheless, the majority of these operations would most probably be followed by satisfactory after-histories, for the unsatisfactory after-results in bad cases are largely due to the fact that the operation wounds and the ligatures pass through diseased tissues. In average cases the same tissues are usually sound, and bear manipulating, cutting, and tying. Hence even good after-histories do not by

any means prove that the operation was justifiable. On the other hand, we must not always expect complete immunity from discomfort after operation on a severe case, where the removal of a dilated suppurating tube is clearly sound surgery.

Removal of ovaries for neuroses unjustifiable.—It is satisfactory to find that an operator of such high reputation as Dr. Howard Kelly admits in his standard work, which treats of very operative gynæcology, that his attitude with regard to removal of the ovaries for dysmenorrhœa will be seen by the fact that in a recent series of 500 abdominal sections at the Johns Hopkins Hospital only four cases were operated on for this reason, and in three of these the relief was not what was looked for. He observes—

"The patient herself can never be the right judge as to the necessity of removing the ovaries. I have seen young women who suffered so severely at the menstrual periods that they were importunate in their demands for radical relief and were willing to submit to any operation; removal of the ovaries suppressed the function, but in place of the pain a train of nervous symptoms appeared, along with the realisation that they were unsexed and could not morally assume the relationship of marriage with the hope of maternity, and profound mental depression supervened."

Again, Howard Kelly remarks—

"The various neuroses, such as menstrual epilepsy, hysteria and hystero-epilepsy, and insanity, do not of themselves justify the removal of the uterine tubes and the ovaries. It has long been fondly held by gynæcologists that in major epilepsy of a distinctly menstrual type—that is to say, occurring always during, just before, or immediately after the menstrual period—the expectation of a radical cure from the suppression of the periodical function was fully justified, but the facts of the case do not so far bear out this assumption."

Howard Kelly quotes Dr. Weir Mitchell, who says, "In

no case seen by me had ablation of ovaries and termination of menstruation cured an epilepsy. I have never sanctioned such an operation where the appendages were sound. I have agreed thrice to these operations in epilepsy with such pelvic disease as of itself would justify oöphorectomy. In all three, after some delay, the fits returned, and were in no way permanently aided."

Dr. Mitchell then adds a most instructive case:—

"I recall as an illustration a case in which there were epileptic attacks of great severity only at the menstrual epoch. The ovaries were apparently sound, but, as two physicians and a surgeon were against me, my opinion was not regarded and ovariotomy was performed. The attacks, which had been daily, stopped for seven weeks after the operation, *and the case was hastily spoken of as a great triumph.* The patient, however, then became worse and a permanent loss of mind resulted. . . . . *The ease of operation, the freedom from mortality, makes that seem of little moment which should in every case receive the gravest consideration.* . . . . In all my life I have met with but four reflex epilepsies; none were from uterine or ovarian or tubal disease."

Lastly Angelucci and Pieraccini have collected reports of 109 cases, in different countries, where removal of the internal organs of generation was undertaken for the cure of hysteria, insanity, and other nervous disorders. Only seventeen were, according to the operators' own testimony, influenced beneficially, and in twenty cases where the operation was undertaken for hysteria, insanity developed afterwards, whilst twenty insane and hysterical patients were distinctly the worse for surgery.

Fibroids and hysterectomy.—The opinions of Fellows of the Obstetrical Society on this subject are well known. As for the limitations of the operation, that is a matter on which we are by no means agreed. Putting aside those few who object to the operation altogether save where the tumour is so large, or the prejudicial effects so extremely marked, that the risks of hysterectomy are

excessive, we may agree that under certain conditions hysterectomy for uterine fibroid is right. These conditions are well known. The tumour may not destroy life, whilst removal of the uterus may prove fatal, but patients value other things besides life, and the operation may involve more risk if delayed till the sufferer has passed through a year or two more misery or constant discomfort. I think, gentlemen, our rule should be : when in doubt, watch. I have mounted guard over a very large number of fibroids for years, the patients remaining in good health with little variation in the size of their tumours. Some cases, however, have been the worse for waiting. What we all want to know is where the border-line should be drawn. We must remove very rapidly growing tumours, particularly when they increase in the direction of the pelvis. Fibroids of the broad ligament should always be extirpated when diagnosed ; that is to say, a hard, more or less fixed mass, with the cervix and body of the uterus distinct, yet closely connected with it, demands an exploratory operation. Error in diagnosis nearly always means that the tumour is a fibroma of the ovary, which certainly requires removal. Delay, when there is no trustworthy clinical evidence that the growth is stationary, exposes the patient to grave pressure effects, and the danger of an operation which is never easy is much increased when the tumour is large. I myself would also place on the operation side all cases of uterine fibroid where there is steady growth with steady softening of the tumour, whether in youth or towards the menopause. Tumours of this class, often unassociated with bleeding, are very dangerous to remove when large. The vessels are dilated, the uterus and cervix thick, and the parametrium œdematous and intolerant of much handling, tying, and sewing. Hence I think that such a case must not be watched too long.

I wish it to be understood that we must not think too much about the risk of malignant degeneration. Martin, of Berlin, an advocate of hysterectomy in what may be

termed average cases, admits that he has only observed sarcomatous changes in six out of 205 fibroids. I have only observed one genuine case in the entire practice of the Samaritan Hospital since 1877. Olshausen speaks just as definitely, "amidst hundreds of myomas, often not a single case of the kind is met with."

However, I must return to the rectification of the frontier. I would not place on the operation side cases where the patient urges removal of a fibroid because it worries her. Howard Kelly says, "I have, however, operated two or three times solely on account of the distressed mental condition of the patient, induced by the knowledge that there was a tumour which she could feel in the abdomen; until the operation was done it was impossible to allay the fears or to persuade the patient to think of anything else but the tumour, and no reasoning had any effect."

This statement is open to criticism, though the frank admission that "*I* have, however, operated" shows that the author is taking full responsibility whilst not justifying operation under such circumstances as a general practice. The size of the tumour in each of these "two or three" cases should have been given; indeed, as the author furnishes us with no clinical reports the whole statement may mislead many of his readers. We can give wholesome advice to such a patient if the tumour be small and stationary. We cannot teach her pathology, but we can tell her a pathological truth of direct concern to herself; we can inform her that a fibroid is not a cancer, and if she talks about a friend who recovered from ovariotomy, we can assure her that ovarian tumours are always dangerous to life and are best removed when diagnosed, whilst uterine fibroids seldom kill and are rarely so bad as not to allow of watching.

Speculative operating on uterine fibroids must, I think, be condemned entirely. Under this head I include the removal of a fairly large, hard fibroid in a woman over forty, immediately on diagnosis, without watching for

awhile, though the tumour causes no serious symptoms. Few now advise removal of a small myoma because it might grow big. We know the views of Fellows of the Society, so I need not dwell on them. All of us are aware that these tumours do not, as a rule, grow dangerous.

In other quarters we find that the same opinion prevails. Kelly, whom it is fair to quote under the circumstances, states, "*I feel it my duty to utter an urgent warning against accepting the simple fact of the presence of a tumour as a sufficient indication for operation.*"

Olshausen, a great authority, is very clear in his verdict against speculative operations. "When we ask sincerely if patients with fibroids frequently perish owing to the fibroid, whether directly or indirectly, the reply must be absolutely No!" He even admits that the anæmia from the hæmorrhage is seldom fatal. In this respect, Olshausen, who has done much to perfect retro-peritoneal abdominal hysterectomy, implies that he is even more conservative than Sir William Priestley, who in his famous address "On Over-operating in Gynæcology," delivered at the London Meeting of the British Medical Association, remarked, "I have heard it affirmed that a uterine fibroid never killed a woman. This may in a sense be true, but nevertheless I have seen poor women so reduced by hæmorrhage or so suffering in other ways from them, that in their cases I should look with much less disfavour on any surgical interference which promised relief with even comparative safety."

The question is, however, I trust, settled in this Society, though there appears to be a criminal mania for operating in certain foreign climes.

Uterine displacements and surgery.—I fear that there is much abuse of operating in respect to uterine displacements. In certain cases the aid of surgery is certainly demanded. The subject is highly complicated, and not suited for brief review. We cannot soundly judge operations without first knowing the pathology of flexions and

versions, which does not appear to me to be by any means settled.

A long series of operations has been devised to pull the uterus up into its right place or to support it from below. On these I cannot dwell, but we must not be hasty in blaming our professional kindred simply because they have devised so many methods. Large text-books now current describe many operations of very different nature and principles performed for the remedy of the same kind of displacement by different operators. This fact clearly signifies that the disease is obstinate and dependent on conditions not always easy to counteract, that failure is therefore common and that gynæcologists are sincerely zealous for improvement. Unfortunately too much reliance has been placed on the knife and the suture-needle, and too often is it assumed that it is an operation, whatever that operation may be, that will ultimately cure the patient, granting that she takes care of herself. To feel sure of cure, however, we must be very patient, nor must we neglect to search for any ill results due to the operation. For this purpose only long after-histories are of the least avail. Some foreign writers seem to act against all these principles, especially the last. One professor of high authority recently published statistical tables of 359 vagino-fixations of the uterus. Six cases ended fatally. Over sixty were performed within eight months of the publication of the tables, nine within six weeks. After-histories are included, but some are only a month old. It is impossible to judge of the value of an operation of this kind on such evidence. Again, in a large majority of the series something was done to the tubes and ovaries, disease of the appendages being present. All this extra operating might have been quite justifiable; indeed operation was undertaken partly on account of tubal and ovarian disease faithfully noted in the tables, but as the summary of the tables reads "Vaginal fixation of the uterus *on account of retroflexion*," these remarkable records will certainly

incite many to undertake this particular operation for that particular purpose. The same author adds tables of six cases of vesico-fixation of the uterus for retroflexion. The professor very rightly admits that one case died a few days after discharge from hospital, where they had kept her for a month, from old heart disease. Another European operator of repute treats prolapse in elderly subjects by opening the abdomen and amputating the uterus as in retro-peritoneal hysterectomy for fibroids, lastly sewing the stumps of the broad ligament on to the peritoneal flaps already sewn over the stump of the cervix. I said lastly, but I must add that the proceedings terminate by a perineorrhaphy if the perineum be thin. One critic states that this operation is too recent and the number of cases still too limited to allow of fair comparison with allied methods. Those who wish to study the present attitude of operators should consult the lucid Greig-Smith like epitomes of operations still in vogue for the cure of displacements in Henri Delagénière's 'Chirurgie de l'Utérus.' The very table of contents looks formidable, bristling with proper names or terms in the Franco-Latin-Greek dialect applied to these surgical novelties. In their original treatises, the authorities which M. Delagénière quotes, seem to agree in omitting certain considerations such as my friend Dr. Herman takes care to impress on his readers. Thus, in respect to hysterectomy for prolapse, Dr. Herman concludes, as I will conclude these remarks on operations for displacement: "The descent of the pelvic floor is the essential condition, and that remains after the uterus has been removed. The vagina descends as before, only that at the bottom of it there is a scar instead of the os uteri."

Time forbids me to dwell on other important matters associated with the surgery of diseases of women, such as that remarkable subject extra-uterine gestation, which is like a polyhedron in its multiform aspects, pathological, clinical, gynæcological, obstetrical, and surgical, all of importance and all requiring much more elucidation.

Surgery has already triumphed here, but operation late in pregnancy remains fraught with peril, however able be the operator.

Gynæcological surgery, I may say in conclusion, has done great services to womankind, though, as in every other branch of surgery, whilst much is good and well established much remains uncertain. We must not be over eager to blame others who seem to us to do too much or to leave undone that which we think ought to be done, for we all lack sound knowledge such as alone can make us sure as to the duty of interference and non-interference. In this address I have avowedly dwelt on surgery, implying at the same time that surgical proceedings are only justified when clinical research has proved that there is something which ought to be removed or rectified by an operation. In this sense the surgery of ovarian tumours is soundly established; would we could say the same of most other diseases to which I have referred! Surgery must respectfully follow clinical exploration, otherwise not only the surgeon's knife but his powers of diagnosis also will be blunted by too many exploratory incisions. Patient clinical research is the sheet-anchor of the gynæcological surgeon.

A SECOND CASE OF PRIMARY CARCINOMA OF THE FALLOPIAN TUBE.

By C. Hubert Roberts, M.D., F.R.C.S.

Since publishing the "Notes of the First Case of Primary Carcinoma of the Fallopian Tube" in vol. xl of the 'Transactions of the Obstetrical Society,' another case has come under my notice which I think may be of interest.

The following are the notes:

Mrs. R—, aged 60, married, no pregnancies. Perfectly well (except for some attacks of bronchial catarrh and asthma) up to June, 1897.

On June 27th, 1897, during one of these attacks, the patient noticed for the first time a cherry-coloured watery discharge which lasted for three days. There was no pain or discomfort, but the patient was somewhat alarmed as the periods had completely ceased ten years ago (*i. e.* at the age of fifty).

On July 1st, 1897, her own doctor (Dr. Callender) made a pelvic and abdominal examination, but nothing abnormal was then discovered.

On July 3rd the discharge reappeared, and was of the same character, but rather more profuse. Iron and ergot were prescribed, and on July 5th the discharge ceased and the patient got up.

There were no further symptoms up to September, 1897, when after rather severe pain in the lower abdomen, another fairly profuse discharge of reddish watery fluid was noticed. Iron and ergot were again prescribed, and the discharge ceased.

During the latter months of the year 1897, two or three further vaginal and abdominal examinations were made by her own doctor, but nothing definite was discovered. She was fairly well and in good health up to the spring of 1898, when there was a further attack (the fourth) of abdominal pain and watery discharge.

Dr. Champneys saw her several times with Dr. Callender ; at first nothing was found, but in April, 1898, a subsequent examination revealed a swelling to the left and behind the uterus which could just be grasped ; it was firmly fixed, and was thought possibly to be an ovarian cyst, and the possibility of malignancy was raised.

Later in the same month (April, 1898) Mr. Meredith saw the case with Dr. Champneys, and an exploratory operation was decided upon. Examination now revealed a considerable swelling to the left and behind the uterus, which seemed to have increased rather rapidly ; the swelling appeared rather nodular and hard in parts, but the lower portion, which extended deeply into Douglas's pouch behind the uterus, appeared to be cystic. The uterus was quite small, senile in character, but otherwise healthy ; it was fixed more or less to the mass on the left side of the pelvis.

Operation (May 5th, 1898).—Abdominal section was performed by Mr. Meredith ; I assisted. The abdomen was opened in the usual manner, and after considerable difficulty, owing to many adhesions, a large tumour was raised from the left side of the pelvis and Douglas's pouch, which had the appearance of a distended tube. It was everywhere densely adherent both to bowel and to the deeper parts of the pelvis, and back of uterus. The tumour was gradually raised into view, and beneath it a cystic ovary, considerably enlarged and very adherent, gave rise to much trouble.

During this stage of the operation the tube was unfortunately ruptured, and from the rent on its upper border nearly a handful of curious pultaceous, putty-like

material escaped. It was at first thought to be structureless, but closer examination showed it to be of a villous or papillomatous nature, but much degenerated ; there was very little free fluid in the tube itself. As much as possible of this material was removed from the interior of the tube, which now collapsed somewhat, and the tube was gradually raised and freed from the surrounding structures, beginning at its outer border.

The relations of the tumour to the uterus could now be more accurately determined, and it was evidently a distended and diseased tube. Towards the uterus the tube was remarkably sacculated, but at its junction with the uterus the tube appeared healthy ; it was ligatured quite close to the uterus with some difficulty and removed, together with the left ovary. The right tube and ovary were then carefully examined, but beyond being small and very adherent appeared healthy. They were left *in situ*. There was no secondary deposit noted in the peritoneum, Douglas's pouch, or broad ligaments. There was no free peritoneal fluid. The abdomen was flushed out with warm water and closed in the usual way. There was no drainage used. The patient made a perfectly smooth recovery.

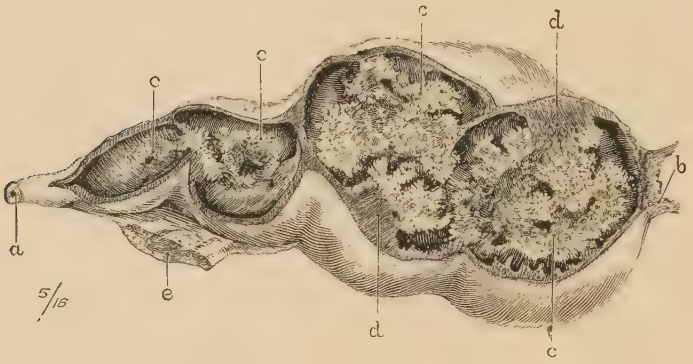
In November, 1898, six months after the operation, a very good report was received from Dr. Callender. There had been no return of the discharge or discomfort, and the patient had gained in health and weight.

January, 1899.—Subsequent reports of the case have not been so satisfactory, and from an examination there is now no doubt that recurrence has taken place (*i. e.* within eight months of the operation).

Description of the specimen.—The tumour consisted of the left Fallopian tube, which measured $6\frac{3}{4}$ inches in length and $4\frac{1}{2}$ inches at its greatest circumference. Its shape resembled that of an ordinary distended tube, and its surface was everywhere covered by dense adhesions. The fimbriated extremity of the tube was closed, and only a few distorted plicæ could be made out. The uterine

extremity of the tube appeared natural. The tube exhibited a large rent $1\frac{3}{4}$ inches long at its outer and upper border, which was made during the operation, and from this exuded a large broken-down mass of solid material like putty, but having a very definite structure. There was only a very small amount of fluid in the tube. On laying open the remainder of the tube it was seen to contain almost everywhere a dense mass of villous or papillomatous-looking growth, evidently undergoing, at all events on the surface, marked degeneration and

FIG. 1.

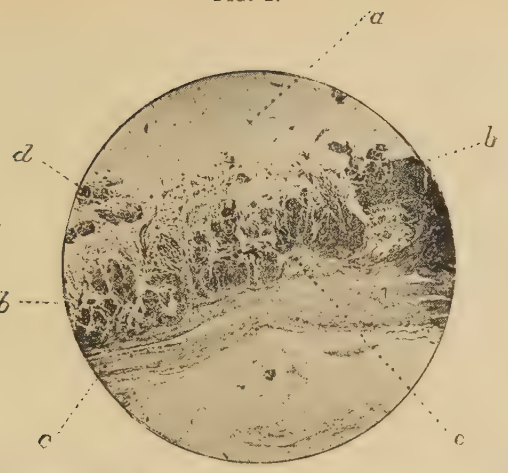


Primary carcinoma of the Fallopian tube. Dr. Roberts's second case. $\frac{1}{2}$ nat. size.

a. Uterine end of tube. *b*. Fimbriated extremity. *c, c*. Mass of papillomatous growth undergoing degeneration. *d, d*. Solid portions of growth involving wall of tube. *e*. Remains of meso-salpinx thickened.

maceration. After much of this material had been removed, the deeper portions of the growth were found to spring from the wall of the tube itself, either in huge sessile masses or in smaller warty-looking patches. The tube was remarkably sacculated (*vide* drawing), and by far the greater mass of growth was contained in the dilated and somewhat thinned-out cavity towards the fimbriated extremity; here the growth had evidently undergone great proliferation, and formed a confused dense mass. This portion of the tube was infiltrated with

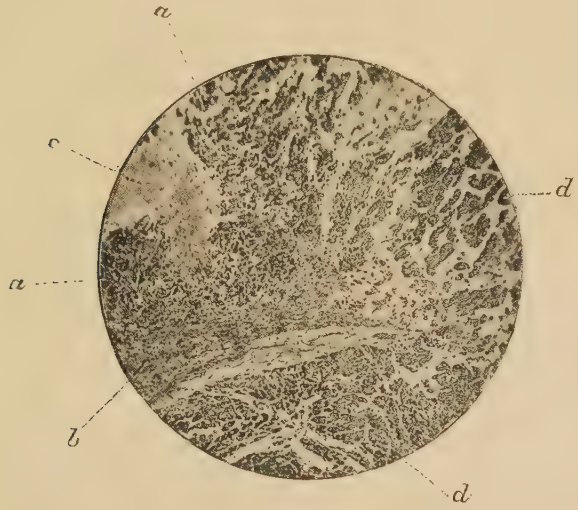
FIG. 2.



Microphotograph, low power, to show general outline. Fallopian tube in longitudinal section, showing villous processes of growth projecting into lumen of tube; columns of cells are seen invading the deeper portions of the involved muscular coat.

a. Lumen of tube. *b b*. Carcinomatous cells in columns. *c*. Muscular coat. *d*. Portions of growth towards lumen of tube, very degenerated. *e*. Connective tissue beneath mucous membrane forming branched framework on which cells are arranged.

FIG. 3.



Microphotograph, high power, taken to show the invasion of deeper portions of tube by large groups or columns of atypical columnar cells. The invasion is very severe; very little of the connective-tissue framework remains.

a a. Large columns of carcinomatous cells. *b*. Remains of connective-tissue framework of stroma, with vessels. *c*. Degeneration areas in carcinomatous cells. *d d*. Large irregular masses of carcinomatous cells in deeper portions of tube wall.

growth and thickened, and its whole interior was studded with new growth, none of the ordinary smooth lining remaining. It was at the upper border of the portion that the rent had taken place during the operation. The remainder of the tube towards the uterus was also remarkably sacculated; here new growth was not so marked, though the tube was infiltrated to within half an inch of the point where the ligature was applied. The lining membrane of this portion of the tube was more natural in appearance and thrown into many transverse folds, but almost everywhere its surface was studded with small villous or warty projections, some sessile, others more or less pedunculated. The walls were not nearly so much infiltrated as in the outer extremity of the tube. There was a little reddish fluid in this portion. The uterine end of the tube at the point of division was quite patent, the canal being larger than natural. The most careful examination of the tube failed to reveal any perforation of the wall by growth itself along its entire length. The remains of the mesosalpinx were somewhat thickened but not involved, and the ovary, though enlarged and cystic, appeared free from growth.

Microscopical examination of the growth proves it to be without doubt a carcinoma (Figs. 2 and 3).

Sections taken of the wall of the tube towards the fimbriated extremity show marked carcinomatous infiltration of the deeper portions of the wall of the tube; large clusters of cells of an atypical columnar type, arranged more or less in alveolar spaces, are well seen, the infiltration in parts being severe. Sections taken near the uterine end of the tube show growth more or less of a papillomatous type, with very little infiltration of the wall itself. A most marked feature in the sections is the extreme degeneration and maceration of the portions of the growth which projected into the lumen of the tube; they are almost structureless, and are very difficult to preserve and stain, even in sections embedded in paraffin.

Dr. Andrewes and Dr. Morley Fletcher, of St. Bartholo-

mew's Hospital, have also carefully examined the sections, and report that they are undoubtedly carcinoma.

Remarks.—Cases of papilloma and primary carcinoma of the Fallopian tube are rare. Quite lately Mr. Alban Doran read a paper before this Society on the subject of primary carcinoma of the tube, with a list of the most authentic cases on record, among which my first case is recorded, with drawings and microscopical sections ('Obstet. Soc. Trans.,' vol. xl).

I show to-night the second specimen, with drawings and sections, which resembles the first case in many particulars, both being instances of carcinoma developing in a normally-formed Fallopian tube, and not in connection with a cyst connected with the ostium, as is sometimes the case.

Great difficulty is found in distinguishing papilloma from true cancer, and, in fact, they resemble one another clinically in many ways, and it is known that papilloma may undergo malignant degeneration, and I am rather of the opinion that the case reported to-night is one of these, and that it began as papilloma, though the sections now prove it as undoubtedly malignant, as does the clinical history of recurrence. A point which has been frequently observed, both in cases of papilloma and cancer of the tube, is the condition known as hydrops tubæ profluens, of which this also is a good instance, the patient's attention being first directed to the curious cherry-coloured watery discharges from the vagina. This seems to occur only when the abdominal ostium is closed, the tube apparently becoming distended by the exudation from the growth and then discharging itself into the uterus; such attacks of distension are associated at times with great pain, the tumour rapidly increasing in size and diminishing again after the fluid has been discharged, a fact which may sometimes lead to the tumour being overlooked.

There was no free peritoneal fluid in this particular case, but it does sometimes occur either from peritoneal

irritation or from the escape of fluid from the tube itself through the abdominal ostium or from perforation of the tube wall by the growth. Free peritoneal fluid is always very suspicious of malignancy in such cases.

There was no definite history in this case of previous pelvic inflammation, which has sometimes been observed; in fact, no symptoms were noticed till ten years after the menopause, but it is quite possible that morbid papillæ may develop in the mucosa of tubes which have previously been chronically inflamed.

The advanced age of the patient (sixty) is perhaps another point; as far as I can discover, no cases of primary carcinoma of the tube are known under the age of thirty-six. Reference may be made to Mr. Doran's paper on the subject.

So far the records of the results of operation in these cases are fairly favourable, and the type of malignancy is not very high; there is no doubt that removal is the proper and only treatment.

I regret to have to report in this case recurrence within eight months of the operation, and though at first the patient gained in strength and weight and a favourable report was received up to November 23rd, 1898, there is now considerable recurrence in the pelvis, quite fixed and hopeless as regards any further operative procedure.

July, 1899.—Since the above report was read the patient has steadily lost ground, and the abdomen has been repeatedly tapped since the beginning of the year 1899. The last tapping was May 28th (1899), 190 oz. of fluid. The growth had enormously increased, and the whole peritoneal cavity was full of growth. There had been no pain or obstruction. The patient died rather suddenly on June 15th, 1899, persistent vomiting setting in about three hours before death. No post-mortem was allowed.

I beg to thank Dr. Champneys and Mr. Meredith for allowing me to publish the notes of the case.

Dr. Cullingworth said that the very interesting question, to which allusion has been made in the paper, as to the connection between papilloma of the Fallopian tube and carcinoma, could scarcely be settled until an opportunity occurred of examining a carcinomatous tube at an early stage. The evidence afforded by specimens like that now shown, where the disease was well advanced, was, in reference to the mode of origin, altogether inconclusive. The President had called professional attention to the subject of papilloma of the Fallopian tube in various papers and articles, and had had the good fortune to see several cases. He (the speaker), notwithstanding that he had had a fairly large experience in tubal affections, had not as yet happened to meet with a single example. As a matter of fact, papilloma of the Fallopian tube was almost as rare as carcinoma, so that the possibility of the one condition becoming developed into the other even if proved would not be a fact of very serious clinical importance. He congratulated Dr. Hubert Roberts on his admirable record of a case of great interest.

Dr. Amand Routh alluded to a case he had reported to this Society of primary disease of the Fallopian tube, where the difficulty had been to make a correct diagnosis. Pain and blood-stained watery discharge during the early menopause was usually of intra-uterine origin, and in the absence of any definite tubal swelling he had explored the uterine cavity, expecting to find some senile endometritis or malignant disease. As nothing was found to be amiss with the endometrium, and as a tubal swelling was soon afterwards felt, the abdomen was opened and the right Fallopian tube removed, and found to be affected by primary carcinoma. He doubted whether these cases began with papilloma, and pointed out that the microscopical sections shown by Dr. Roberts showed nothing in common with the forms of infiltrating or malignant papilloma which he had seen invading the uterine walls, where the original growth was known to have been an ordinary papilloma, but had taken on a malignant change.

The President observed that carcinoma of the tube certainly arose from papilloma, such as occasionally developed in an old hydrosalpinx. Dr. Hubert Roberts's case seemed to be of that type. In the tables which he himself had prepared and which were published in the Society's 'Transactions' for 1898, the patient was sixty years old in two out of a total of twenty-five cases, and between fifty-eight and fifty-nine in two more. He thought that Doléris was correct in distinguishing an "endosalpingitic papilloma," and had himself demonstrated the relation of papilloma to inflammation as long as 1879, and noted the malignant degeneration of papilloma in 1888. He had recently come across a case of papilloma of the tube, associated with malignant tumour of the broad ligament and extensive

lymphatic infection. In conclusion, the President doubted whether cancer had ever been seen to develop in a previously healthy tube.

Dr. Roberts, in reply, thanked the various speakers for their kind remarks on his paper. In reply to Dr. Cullingworth, Dr. Roberts said that he had not been able to find any case recorded *below* the age of thirty-six. It seemed to be a disease peculiar to the later periods of life, especially after the menopause. A question had been asked as to the curious attacks of pain; Dr. Roberts believed that they could be accounted for by the distension of the tube by fluid, and then this being discharged gave rise to the cherry-coloured discharges noted from time to time; the pain in each case preceded the discharge. The fluid was probably secreted by exudation from the growth, and discharged into the uterus when the tension rose above a certain limit. Dr. Routh had suggested the question of the case being one of papilloma of an invading nature, as illustrated by a uterine growth which he had met with. He also asked whether papilloma could become malignant, and if it were possible to distinguish such cases. Dr. Routh also referred to the importance of diagnosis. Dr. Roberts feared that it was a very difficult point to answer, and rather referred to Mr. Doran's work on that subject, as only two cases had come under Dr. Roberts's notice, and which he had reported to the Society (this being the second). Dr. Roberts thought that it was quite possible, as the President had remarked, that this case started in an old hydrosalpinx, but there was nothing in the previous history to show this, though in some cases reported there had been previous attacks of inflammation pointing to the possibility that in such diseased tubes morbid, papillomatous, or malignant changes might start later in life. As to diagnosis, the points seemed to depend chiefly on the importance of noting any discharges of a watery or blood-stained nature in later life, especially after the climacteric, the so-called hydrops tubæ profluens, and that careful and repeated pelvic examinations should be made in such cases. Dr. Roberts pointed out that hydrops tubæ profluens might also occur in papilloma of the Fallopian tube, tubo-ovarian cysts, congenital and simple hydrosalpinx; it was very difficult, if not impossible, before operation to distinguish between papilloma and carcinoma of the tube. They should both be removed. In Dr. Roberts's case malignant recurrence had already taken place.

APRIL 5TH, 1899.

ALBAN DORAN, F.R.C.S., President, in the Chair.

Present—29 Fellows and 1 visitor.

Books were presented by the New York Academy of Medicine, the North of England Obstetrical and Gynæcological Society, Dr. Cullingworth, and Professor Kleinwächter.

Francis A. Osborn, L.R.C.P.Lond. (Dover), and David Charles Rayner, F.R.C.S. (Bristol), were declared admitted.

The following gentlemen were elected Fellows of the Society :—Cuthbert Lockyer, M.D., B.S.Lond., F.R.C.S.; Herbert Williamson, M.A., M.B., B.C.Cantab.; Albert W. Bowie, M.B., C.M.Edin.; Charles Walker, M.D.Lond.

MYXO-SARCOMA OF THE UTERUS REMOVED BY PAN-HYSTERECTOMY.

Shown by AMAND ROUTH, M.D.

A committee, consisting of Drs. Eden, Griffith, Spencer, and Amand Routh, was appointed to examine and report on this specimen.

HÆMATOSALPINX IN A CHRONICALLY INFLAMED FALLOPIAN TUBE.

Shown by Arnold W. W. Lea, M.D., B.S., F.R.C.S.

The specimen consists of the left Fallopian tube and ovary removed by posterior vaginal section. The patient, aged 31, had suffered for three years from pelvic inflammation, probably of gonorrhœal origin. She had never been pregnant, nor was there any point in the history suggesting the possibility of tubal gestation. The Fallopian tube is much enlarged, very tortuous, and covered by firm peritoneal adhesions. The mesosalpinx is contracted and the ovary lies close to the tube and firmly adherent to the fimbriated extremity. The ovary is enlarged to the size of a hen's egg, and contains two large abscess cavities, one of which ruptured during removal. The pus contained *Staphylococcus pyogenes albus;* no streptococci or bacilli were detected. The Fallopian tube on section shows considerable dilatation of the lumen, especially at the ampulla. The walls of the tube are much thickened and very dense (thickness of wall, $\frac{1}{4}$ inch). The cavity contains in its whole length clotted blood; this had partially become organised. The main interest of the specimen lies in the fact that extensive hæmorrhage had occurred into the tube during chronic inflammation, an occurrence of some rarity. No pus was present in the tube. The appendages on the right side were examined during the operation, and appeared to be quite normal.

The patient made a rapid and complete recovery.

The President noted that within a week or two of the debate between himself and Mr. Bland Sutton at the November meeting of the Society (see 'Transactions,' vol. xl, 1898, p. 313), M. Doléris read a paper at a French society on "Hæmorrhage from the Tube not due to Pregnancy." A short notice of his commu-

nication appeared in the 'British Medical Journal,' March 25th, 1899, p. 744. Dr. Lea's case reminded him of the specimen of apoplexy of the ovary which he exhibited before the Society nine years ago ('Transactions,' vol. xxxii, p. 119). Doléris had noted hæmatosalpinx and hæmorrhage into the corresponding ovary. He reminded Dr. Griffith that, according to the catalogue of the museum of St. Bartholomew's Hospital, the projection of the clot beyond the fimbriated extremity was due to the narrowing of the tube through the action of spirit, as it was not observed in the fresh specimen (see Plate V, fig. 2, 'Transactions,' vol. xl).

Dr. Griffith replied that he was present when the post-mortem was made, and saw the clot just protruding from the ostium.

Dr. Cullingworth quite agreed with the President as to the interest of Dr. Lea's specimen, especially in its bearing upon recent discussions. He (the speaker) had been long familiar with the occasional occurrence of hæmorrhage from the Fallopian tube as an incident in the course of a chronic salpingitis, and quite independent of gestation. He had, indeed, met with an instance quite early in his experience of operations for intra-pelvic disease, and in his paper "On the Value of Abdominal Section in certain cases of Pelvic Peritonitis," read before the Society in 1892, he had recorded a case of hæmatosalpinx due to hæmorrhage of this kind ('Obst. Trans.,' vol. xxxiv, Case 2, pp. 262–4). In the same paper he had also recorded a case of double pelvic hæmatocele, where the effusion apparently had a similar origin, but where, the abdominal ostea being open, the blood made its way out of the tubes instead of, as in Mr. Lea's case, forming a hæmatosalpinx ('Obst. Trans.,' vol. xxxiv, Case 11, pp. 286–8. See also Case 14, pp. 293–5, for a case of suppurating hæmatocele that probably comes within the same category).

SECTIONS FROM THE UTERUS OF A BONNET MONKEY.

Shown by Augustus W. Addinsell, M.B., C.M.Edin.

ANTERO-POSTERIOR POSITIONS OF THE HEAD AS A CAUSE OF DIFFICULT LABOUR.

By R. G. McKerron, M.A., M.D.

Presentations of the fœtal head during labour other than in the four recognised positions are so extremely rare, that no account is taken of them in most of our standard text-books. They are, however, of no little practical importance for the reason that rectification of the position is necessary to allow of safe delivery. Of all these malpositions, that with which this paper deals is the most uncommon. My attention was directed to the condition by two cases that came recently under my observation, and that illustrate well the character of the labour and the mode of management in this form of presentation.

Case 1.—Mrs. B—, aged 41, the mother of ten full-term children, of slender build and much under the average height. Her previous labours had without exception been very protracted—all save two, in which the children were small, requiring the forceps. On two occasions on which I delivered her, extraction was difficult. Labour began on the evening of November 30th, but the pains only became frequent and strong in the forenoon of December 1st. She was seen by me at 12.15 a.m. on the 2nd, a midwife and two students having been in attendance from 3 p.m. Examination showed the os fairly dilated, with a diameter of rather over two and a half inches: the head was above the brim, not engaging the os, which was soft and dilatable. The

condition, I was informed, had been much the same for several hours. The pains, gradually diminishing in strength, were now weak, and at intervals of seven to ten minutes. The woman complained of being much exhausted, but her pulse though weak was not much accelerated. The head lay moveable above the brim, occiput anterior. The posterior fontanelle could be felt clear of the anterior lip of the os about one and a quarter inches from the symphysis—the sagittal suture running almost directly backwards. Under chloroform Simpson's forceps (Stephenson's modification) was applied and strong traction made in the line of the axis of the brim. Repeated efforts failed to produce the slightest advance. As the forceps gave evidence of slipping, for almost the first time in my experience, the blades were removed and a more thorough examination made. The head seemed of normal size; the posterior fontanelle was situated as stated; the sagittal suture ran upwards and backwards almost in the conjugate of the brim, with a very slight inclination towards the right. The anterior fontanelle could be felt above the promontory—just to the right of its middle. After demonstrating to the students the exact relation of head and pelvis, I explained the modus operandi determined on, namely, to cautiously rotate the occiput backwards, so as to bring the long diameter of the head into the oblique of the pelvis. This was done with a most gratifying result. The head with moderate traction passed the brim, and the labour was with ease concluded. The child, a boy, was rather over the average size, and well developed. It made no attempt to breathe, though the cardiac pulsations were strong. After about half an hour's artificial respiration, it breathed freely but did not cry. It died three days after. No post-mortem was made. The mother made a good recovery. Measurements were subsequently taken of her pelvis with the following results: interspinous 8·75 inches, intercristal 10·25 inches, external conjugate 7·1 inches.

Case 2.—J. C—, aged 38, unmarried, one child two years before, the labour being protracted and terminated by forceps. She was brought to the Maternity Hospital at 10 p.m. on December 15th, labour pains having begun an hour or two before. On admission the cervix was found drawn up while the os readily admitted one finger. At 1.30 a.m. the pains were frequent and strong, and so continued till 3 a.m., when they suddenly ceased, and the patient slept till 8 o'clock. She was up and about during the day; the pains, at first slight, increased towards afternoon. She was seen by me at 5.15. She was a stout, robust woman, well under average height. The pains were at intervals of about five minutes, and of fair strength. On external examination child found dorso-anterior; internal examination showed the os about the size of a crown piece, with soft moderately dilatable edges. The membranes were unruptured, but unfortunately gave way during examination. Head lay above the brim, freely moveable: the posterior fontanelle could be felt in front, at the lip of the os, and, as I thought, a little to the left, the sagittal suture running backwards. As everything seemed favourable, I gave instructions that I should be called in two hours if satisfactory progress were not made. About 10 o'clock I was sent for, but was unable to attend till 11.30. Though the pains had become much stronger, little progress had been made. The os was three parts dilated, its lips loose, and not much stretched during a pain. The head lay above the brim, still quite moveable. The posterior fontanelle could be readily felt in front of the centre of the os and an inch or more from the symphysis. Under chloroform the sagittal suture was found to run backwards in the conjugate of the brim; the anterior fontanelle could be felt only on passing in the whole hand, situated over the middle of the sacral promontory and nearly half an inch above it. The antero-posterior direction of the sagittal suture was easily made out by the students in attendance. The diagonal conjugate was measured in

the usual way and found to be barely four and a half inches.

Guided by experience of the former cases, I determined, before attempting traction, to get the long axis of the head into the oblique of the pelvis. Simpson's forceps were applied. The occiput was cautiously rotated backwards. With moderate traction the head then passed the brim and labour was completed at 12.15 a.m., less than fifteen minutes after the application of the forceps. The effect of the backward rotation of the occiput in facilitating the passage of the brim cannot be doubted. That simple traction would have failed, as in the previous case, is proved by a comparison of the diameters of the fœtal head and the conjugate of the brim. The child made no attempt to breathe till after twenty minutes' artificial respiration; it weighed eight and a half pounds; there was no great caput succedaneum nor any marked elongation of the occipito-mental diameter. The mother made a good recovery, but the child, for two days apparently vigorous and healthy, became collapsed on the third day and died in a few hours. A post-mortem examination was kindly made for me by Dr. Duncan, pathologist to the Children's Hospital. The following are extracts from his report: "Over the right frontal eminence there was a subcutaneous ecchymosis extending downwards to the right upper eyelid." "The subdural space was found distended with blood." "The blood had mostly gravitated to the base of the cranial cavity and into the subdural space of the spinal cord. The lateral ventricles contained a small amount of sero-sanguineous fluid. There was no fracture of any of the cranial bones. The source of the hæmorrhage could not be found." The occipito-frontal diameter measured $4\frac{3}{4}$ inches, the occipito-mental $5\frac{1}{8}$ inches, the bi-parietal 3 inches. The sub-occipito-frontal was not measured, but may be estimated at 4 inches or rather more.

After the termination of labour the hand was passed up to the pelvic brim, which was found to be rounded in

outline. The conjugate was estimated at just over 3½ inches.

The external measurements of the pelvis were later found to be : interspinous 9 inches, intercristal 10·6 inches, external conjugate 7·5 inches.

Antero-posterior positions of the fœtal head at the brim are so uncommon that some authorities altogether deny their occurrence. This is no doubt due to the fact that without anæsthesia their recognition is rendered difficult by the high position of the head. A few well-authenticated cases have, however, been recorded.

The diagnosis of this malposition rests on the antero-posterior direction of the sagittal suture. Early in labour some disproportion may be suspected from the difficulty in reaching the presenting part. Though the occiput may be directed either towards the pubis or towards the sacrum, no instance of the latter has, so far as I know, been put on record. In the above cases the occiput was anterior and the small fontanelle presented. This, in the first case—the direction of the sagittal suture not being noted—led to the natural conclusion that the head lay in the most favourable position and that all that was required for delivery was traction in the axis of the brim.

Between directly antero-posterior positions and the orthodox oblique, there are no doubt intermediate forms which may escape recognition, either from being spontaneously rectified or from being moulded through the brim. Ramsbotham, who gives the fullest and best description of these presentations, indicates the methods by which natural delivery may take place, namely, by rotation into the oblique diameter. He says : "I have certainly never been called upon to deliver by instruments when the head occupied either of the unfortunate situations now under discussion, but I have known them to obtain at the commencement of labour ; and I have traced the head make a turn with the face to one or

other side, being forced into that position by the strength of the uterine contractions." Though, no doubt, this usually occurs in the intermediate forms, it can only very exceptionally be possible in the directly antero-posterior when the head engages the brim well flexed. Even in these, however, spontaneous delivery may result under favourable circumstances. Strong uterine contractions may so compress and mould the head that it passes the brim in its original position, provided the discrepancy between the suboccipito-frontal and the conjugate be not too great. It implies, however, a protracted labour, and such compression of the fœtal head as to be incompatible with live birth. Radford, in his essays on midwifery subjects, gives the following description of the alteration which the head undergoes :—"A considerable diminution in the length of the occipito-frontal diameter is produced ; in consequence of approximation between the frontal and occipital bones, the fontanelle becomes nearly obliterated, the parietal bones are forcibly separated, and the sagittal suture is wider and more prominent." The organisation of the brain "is injured, and the child, when born, is either dead or dies soon after."

Though no good reason exists why in a normal pelvis the head should not, at any rate at the beginning of labour, occasionally present antero-posteriorly, still, the instances that have been recorded seem to favour the assertion of Galabin that an exactly antero-posterior position "can only happen in a transversely contracted brim."

In both of the above cases measurements showed the pelvis to be of the generally contracted type. In the second the brim was distinctly rounded in outline—the small round pelvis of Herman. In a pelvis of this character, the head, if of average size, can enter the brim only in a condition of strong flexion. If the disproportion between brim and head is at all marked, the latter remains for long moveable, and, as Spiegelberg points out, it frequently "inclines first to one side then to the other, as

if with no definite object, no controlling pressure being exerted from either side." The head may in this way finally assume an antero-posterior position, and if not very large, and "if the pelvis is uncommonly round," may pass the brim thus.

The effect on labour when the head occupies an antero-posterior position is similar to that in contracted pelvis generally, and is well illustrated in our two cases. The head, prematurely arrested, fails to accommodate itself to the brim and to the lower uterine segment, so that dilatation is slow. If dilatation is not complete when the membranes rupture, its further progress is apt to be arrested by the nipping of the cervix at the brim. On examination the cervix may be felt to hang more or less loose during the pains. At first the uterine contractions are frequent and strong, but if the head fails to become moulded or to rotate, they gradually get weaker and the symptoms of obstructed labour sooner or later develop.

Seeing, then, that the natural efforts will, in the majority of cases, end in failure, it follows that assistance should be rendered early. That is the invariable rule in obstructed labour. It is strange that no description is to be found in any of the more recent text-books of the method of rectifying this malposition. Among the older authorities Ramsbotham almost alone attempts to deal with the subject.

The management of the early stage of labour conforms to that in narrow pelvis. If diagnosed before rupture of the membranes, an attempt should be made to correct the condition by external manipulation. After their rupture Ramsbotham's advice may with advantage be followed: "Having watched the effect of two or three pains and observing that it (the head) evinces no disposition to accommodate itself to the dimensions of the pelvic brim, it is proper to follow nature's dictates and incline the face laterally. This alteration in situation it would not be difficult to effect by grasping the head between the three first fingers and thumb introduced into the vagina, pro-

vided the head remained above the brim perfectly moveable, free, and unimpacted." Manual alteration of the head above the brim is, however, useless unless the body of the child can at the same time be rotated by abdominal manipulation, otherwise the head at once reverts to its old position. As this is only possible before or soon after the discharge of the liquor amnii, it was not practicable in either of the above cases. In the event of manual rectification failing, Ramsbotham advises that we should wait "till either the lapse of time or symptoms of danger require instrumental interference." With this recommendation it is impossible to agree. Nothing is to be gained by delay, which serves only to increase the risk to both mother and child. If the membranes rupture early and the progress of the first stage is slow, artificial dilation is to be recommended. When the os is sufficiently dilated the forceps should be *at once* applied and the position rectified in the way described above, namely, by a cautious rotation of the head into the oblique diameter of the brim. I am well aware that many authorities object to this use of the forceps, but our first case shows that traction without rotation may entirely fail. With a small head and a pelvis but little narrowed, simple traction may succeed, but delivery will be effected with less force and greater safety after rotation. In the intermediate forms, where the sagittal suture is not exactly antero-posterior, artificial rotation will often be found useful. Radford recommended this rotation. Discussing the treatment in the essay already alluded to, he says that there are "two methods of operating to be considered, one by the use of the hand alone, the other by the aid of the long forceps," but he goes on to say that the difficulties of manual rectification are such as to "induce me to give preference to the second method." After rectifying the position by "a very limited rotatory movement," he recommends that the instrument be withdrawn, but that should be done, if at all, only after the head is fixed by traction in the brim. This rotatory action

of the forceps was so long ago as 1880 strongly advocated by Professor Stephenson in a paper read before this Society; but his recommendations, strangely enough, have not yet found their way into any of our text-books. Dealing with cases analogous to those under consideration, he says: "It is therefore important to note that when the occipital bone has descended below the level of the brim, and is found directed against the anterior wall of the pelvis, in order to clear the forehead and prevent injury to the frontal bone, the head should be rotated on a vertical axis so as to throw the frontal bone off the promontory."

In the two cases related the character of the pelvis precluded version as a means of rectifying the unfavourable position. Craniotomy was, therefore, the only alternative to rotation with the forceps, and seeing that both children died, it might be argued that this operation would have been preferable and would have exposed the mother to less risk. Notwithstanding the prolonged labour, both mothers made good recoveries. The result as regards the children was due, not to the method of using the forceps, but to the effects of the protracted labour. An earlier resort to the forceps would, in all probability, have saved the children. That, in my opinion, is the practical deduction from the cases which I have had the privilege of bringing before you.

NOTES OF A CASE OF PUERPERAL ECLAMPSIA, WITH A DESCRIPTION OF A FIVE WEEKS' OVUM REMOVED IN A SUBSEQUENT PREGNANCY.

By Walter S. A. Griffith, M.D., and T. W. Eden, M.D.

(Received October 23rd, 1898.)

(*Abstract.*)

A married lady, aged 32, suffered from eclampsia at about the seventh or eighth month of her third pregnancy. Labour was induced by Dr. Griffith, with the intra-uterine bougie, and she recovered. About eighteen months afterwards she again became pregnant, and severe symptoms ensued as early as the fifth week. Dr. Archibald Garrod reported that there was evidence in the urine of chronic nephritis, and the uterus was therefore dilated by the rapid method and the ovum removed. The symptoms thereupon rapidly disappeared, but a trace of albumen persisted in the urine for some time.

The ovum removed was in naked-eye appearances healthy, but showed certain microscopic changes which are described. It is shown that the fœtus had survived up to, or within a very short time of, the removal of the ovum; the changes described are, therefore, primary, and are probably due either to a pre-existing unhealthy condition of the endometrium, or to malnutrition following upon an unhealthy state of the maternal blood, associated with chronic nephritis.

M—, aged 32, was seen by Dr. Griffith at Lowestoft in August, 1896, in consultation with Mr. Worthington and his partner, Dr. Sharon, and Mr. Hepburn. She was in the seventh or eighth month of her third pregnancy, and was suffering from severe eclampsia. The history

obtained was that she had previously had good health, being stout but active. She had suffered from occasional attacks of faintness, the exact nature of which was uncertain; *petit mal* had been suspected. She had had two children before; the first labour was complicated by post-partum hæmorrhage and slight albuminuria; the second was recovered from without any recognised complication three years previously.

In the last fortnight she has suffered from severe indigestion and constipation, and swelling of the legs and face. On the day before eclampsia set in she was at a garden party, after which she had acute gastric pain with dyspnœa, and was very sick. At 6.30 the following morning convulsions began, and the urine was found to contain a large quantity of albumen. The usual treatment with chloral and potassium bromide was adopted by her attendants. Dr. Griffith saw her in the evening and inserted a bougie, and she was delivered the following afternoon, and made an uninterrupted recovery. She and her husband were warned of the risk of future pregnancy.

During the next year and a half she remained in fairly good health without recognised albuminuria. The uterus was subinvoluted, measuring 4 inches, and there was consequently menorrhagia.

On March 4th, 1898, she was found by Dr. Griffith to be pregnant, the last menstrual period having ceased on January 20th, and although only five weeks at the most pregnant she had rather severe lumbar pain, swelling of the legs and slightly of the face, with a cloud of albumen in the urine but no casts. Dr. A. Garrod was asked to report upon the state of the kidneys, and his opinion being that there was evidence of chronic tubular nephritis, on March 6th Dr. Griffith, with the assistance of Dr. Eden, emptied the uterus by rapid dilatation and removal of the ovum, which is the subject of special report.

The further history of the case is that she again rapidly recovered, the œdema and backache quickly dis-

appearing, but a slight amount of albuminuria persisted, for which she has been under the care of Dr. Sharon of Lowestoft, with the advice of Dr. Garrod.

During July and August, 1898, she passed through an attack of pleuro-pneumonia.

Naked-eye Appearances.

Floated out in a basin of water, the sac removed from the uterus was seen to be a ruptured but entire ovum. It measured 3 cm. × 2·75 cm., and was practically spherical in shape; at one spot was a small rent, and the amniotic sac was empty. The fœtus was found loose among the curettings; it was somewhat damaged and distorted, and measured 11 mm. in length; the cephalic end could be made out, but the limbs were hardly perceptible. The outer wall of the ovum was thickly beset with villi over seven eighths of its total area; the remaining one eighth consisted of a white membrane of very delicate consistence; this bare spot is usually present in young ova, and corresponds to the free pole of the ovum opposite the site of attachment. All the villi present were compound (branching), the terminal divisions consisting of small knob-like tufts. Their distribution was unequal, being in part gathered together in dense clusters of long villi with complicated branchings, and in other parts being finer and shorter. The detachment of the villi from the maternal structures was complete in every part, no trace being seen of serotina or reflexa adhering to them.

The decidua consisted of numerous strips and fragments, as removed by the curette, and it was impossible to distinguish the different parts (vera, reflexa, and serotina). Most of the pieces were thick and soft, measuring from 5 to 8 mm. in thickness; a few were thin and membranous, measuring 1·5 to 2 mm. in thickness. The rough surface of attachment was unusually shaggy, and beset in one or two places with small cysts the size of millet seeds. Under the free surface were

very numerous extravasations, the largest nearly the size of half a split pea, but most of them very considerably smaller.

Within half an hour of its removal the specimen was placed in preserving fluids for microscopic examination. Portions of the chorion were hardened in Foa's solution, in saturated solution of mercuric chloride, and in Marchi's solution (osmic acid and Müller's fluid). Portions of the decidua were preserved in saturated solution of mercuric chloride, in formol, in Müller's fluid, and Marchi's solution.

Microscopic Appearances.

Chorion.—The membrane and villi are well preserved, and show the normal staining reactions.

(*a*) *The chorionic epithelium* consists of the two distinct layers usually present in the young ovum. The superficial plasmodial layer shows marked and wide-spread changes. The proliferation of this layer in nodes, buds, and processes, and the formation by this means of new villi, are well marked, and serve to demonstrate the vitality of the ovum. But the plasmodium in almost all parts shows changes which are clearly pathological in origin. It is usual in a healthy ovum to find a certain amount of vacuolation of the plasmodial buds, which is a process associated with the ingrowth from the parent villus of the vascular connective-tissue stroma. There is usually only one vacuole in a bud, central in position, and the protoplasm around it is healthy; the plasmodium covering the villi shows no vacuolation in a healthy ovum. Plate I shows the condition of the plasmodial layer in the present specimen. It will be seen that in villus A, the layer is practically destroyed by vacuolation; the larger vacuoles have clearly been formed by fusion from adjacent smaller ones, as evidenced by the remains of the septa which originally divided them; one has already broken through upon the outer surface, and two others are upon the point of doing so. The whole of

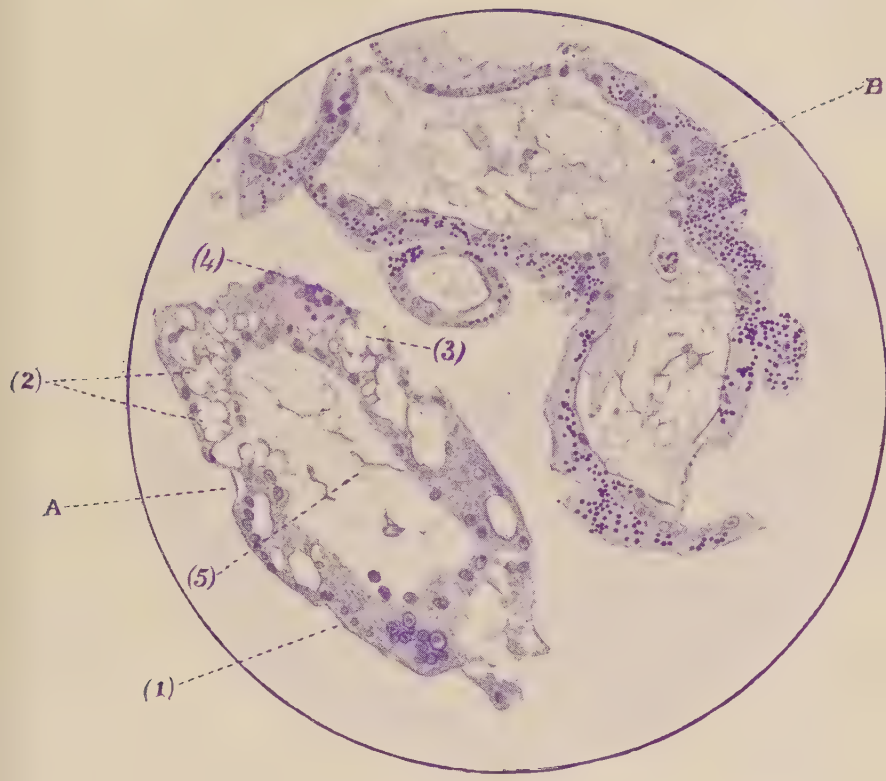
DESCRIPTION OF PLATE I,

To illustrate Dr. Walter S. A. Griffith's and Dr. T. W. Eden's "Notes of a Case of Puerperal Eclampsia, with a Description of a Five Weeks' Ovum removed in a Subsequent Pregnancy."

Composite drawing. Chorionic villi.

A. (1) Portion of the plasmodial layer, showing minute vacuolation.
(2) Larger vacuoles formed by fusion.
(3) Large vacuole breaking through upon the surface.
(4) Small distorted nuclei.
(5) The altered stroma.

B. Showing fat deposit in the plasmodial layer.



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the remainder of the layer is riddled with small vacuoles like a sieve. The number of nuclei is below the normal, and their distribution is irregular, they being gathered together in clusters in the least affected parts. Some are small and distorted, others plump and well preserved.

The same changes may be followed not only in most of the villi, but also in the plasmodial buds and processes, as well as in the plasmodium of the chorionic membrane. Their general distribution is, however, irregular; some parts of the chorion show a number of almost unaltered villi lying side by side with the affected ones, and even in a single villus portions of the layer may remain unaffected. It is quite exceptional to find the whole plasmodial covering of a villus destroyed. The villus represented in Plate I shows an advanced stage of the process.

Where vacuolation of the protoplasm is marked, the deep or cellular layer of the chorionic epithelium has disappeared; its disappearance is to be associated, however, with changes in the stroma to be next described, rather than with the vacuolation of the plasmodium. In villi less severely affected, this layer is present and shows the usual characters. In isolated spots, also, clusters of cells formed by proliferation of this layer are found, as in all healthy ova.

(*b*) *The chorionic stroma.*—In many villi the blood-vessels are normal in number and distribution, and are packed with blood-corpuscles. Even in those showing the most marked changes in the plasmodial layer, capillaries packed with blood-cells may be found. The fœtal blood has, however, undergone slight changes, the corpuscles having lost their sharp outline, and many being in a state of actual disintegration. Almost all the cells are nucleated, and the nuclei are better preserved than the cell-bodies. In many capillaries the lumen is packed with large, round, single nuclei; these are, of course, relics of nucleated red corpuscles, not leucocytes. It is known that at this early period of

embryonic life, a large number of the red blood-cells are nucleated, and this fact is well demonstrated in the specimen. These points are all readily appreciated on comparing the fœtal blood with the maternal blood in the intervillous spaces.

The connective-tissue stroma supporting the blood-vessels and the deep or cellular layer of the epithelium are much altered in all parts (Plate I). The stroma normally consists of a regular, delicate, fine-meshed reticulum, with large numbers of spindle-shaped and round nuclei, the former in the nodes, the latter mostly in the meshes. In the specimen the meshes are greatly widened, the reticulum in many villi broken up and irregular, and the nuclei greatly reduced in number, or, even in much altered villi, altogether absent. Such nuclei as remain are shrivelled and distorted, but not vacuolated. The cells of the deep epithelial layer disappear *pari passu* with the changes in the stroma.

Specimens hardened in the osmic acid solution show a large deposit of fat in the protoplasm of the plasmodial layer. This fat is in the form of small discrete droplets, which show little or no tendency to fusion, and naturally are found most extensively in those villi which show least vacuolation of the plasmodium; there is no fat in the nuclei. It has been shown by one of us (T. W. E.) that a small but readily recognisable fat deposit occurs in the young ovum in conditions of health, as also in some animals, *e. g.* the guinea-pig and rabbit, but in this instance the amount of fat exceeds that usually found, although its distribution is the same. It is doubtful, however, if the deposit in the case is really pathological.

In the intervillous spaces there is a good deal of fresh unaltered blood (maternal), and a small deposit of fibrin upon some of the villi, but these conditions are not abnormal.

Decidua.—Owing to the condition in which the specimen was obtained a systematic description of the decidua is impossible. The thinner portions in all probability

DESCRIPTION OF PLATE II,

To illustrate Dr. Walter S. A. Griffith's and Dr. T. W. Eden's "Notes of a Case of Puerperal Eclampsia, with a Description of a Five Weeks' Ovum removed in a Subsequent Pregnancy."

FIG. 1.—(Ad naturam.) Decidua vera. 1. Distended cells which have lost their nuclei. 2. Large cell with shrivelled nucleus.

FIG. 2.—(Ad naturam.) Decidua vera. Showing deposit of fat in the nuclei and to a slight extent in the reticulum. (Note the wide empty spaces.)

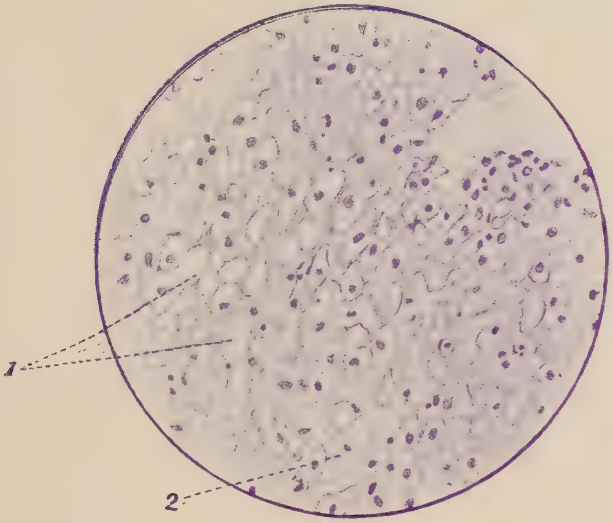

FIG. 1.

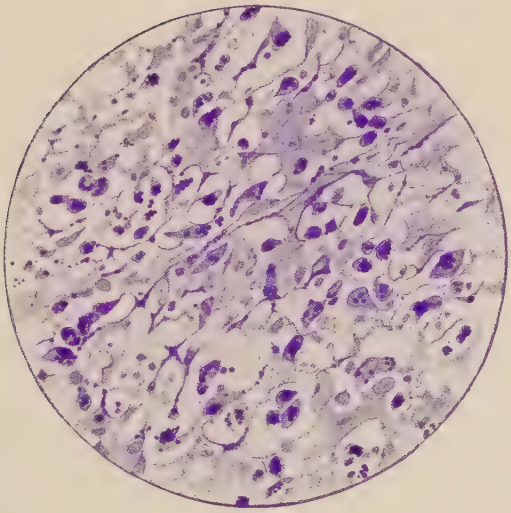

FIG. 2.

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represent the reflexa, the thicker portions the vera and serotina. The vera is easily distinguished from the other parts by its microscopic characters ; serotina and reflexa are alike in structure, but the latter is much thinner than the former. A minute description of such structural details as were normal is unnecessary, but certain pathological features were present which deserve attention.

The decidual cells.—In the serotina the decidual cells are comparatively healthy ; in the vera and reflexa they show marked changes. Plate II is a drawing of the decidual cells in the compact layer of the decidua vera. It will be seen that the outline of the cells is well defined by the deep staining of the normal intercellular material ; decidual cells have no cell envelope, and the intercellular material usually stains in the manner shown in the diagram. The cell bodies, however, are practically destroyed ; and the nuclei of many have disappeared, while those which remain are for the most part shrivelled and small. Many perfectly outlined cells appear in the drawing in which there is no nucleus at all, and the cell-body, in nearly every instance, consists of a faint reticulum, instead of a homogeneous, well-stained mass of protoplasm. Most of the empty cell-spaces are considerably distended. This represents a fairly early stage of the process, and it appears to affect the compact layer of the vera throughout. In other parts the change is much further advanced, the compact layer being riddled with large spaces evidently formed by fusion, and separated by a somewhat dense fibrillar network ; in this part almost no nuclei remain, and the wide spaces were probably formed by accumulation of fluid. In no part is there any increase of the normal amount of leucocytes in the compact layer ; that is to say, there were no inflammatory phenomena.

In sections stained with osmic acid, extensive fatty degeneration is found in the altered decidual cells. The fat deposit is most abundant in the nuclei, but also affects the cell bodies when present, and is found, although to a much less extent, in the fibres of the intercellular

reticulum. There is not the same source of fallacy in interpreting this condition as there is in the case of the chorionic tissues, for in presumptively healthy ova there is only a trace of fat in the decidua ; there can, therefore, be no doubt that in this case the deposit is pathological.

In endeavouring to interpret the changes described several important points must be borne in mind. The value of observations upon aborted ova is much impaired by the fact that in the great majority of specimens changes have occurred in the ovum (generally hæmorrhage or partial detachment) before its expulsion, resulting first of all in destruction of its vitality and later in such marked structural alterations that it is impossible to do more than give a guess as to the nature of the primary pathological changes, if any, which preceded the destruction of the ovum. In this case, however, it is certain that the ovum was *in situ* up to the moment of its removal, and also that it had not been altered in any way by hæmorrhage ; these sources of confusion are therefore excluded. It is not so clear, however, that the fœtus was living at the time of interference. In appearance it was altered in a manner suggesting maceration rather than mechanical injury ; its size, however, corresponded so closely, according to the classical observations of His,* with the calculated duration of pregnancy, that it is extremely unlikely that it had perished for any lengthy period. The presence of blood-filled capillaries in the villi also supports this view, as these vessels are invariably found empty when the fœtus is at all macerated. We are, therefore, justified in concluding that the changes described in the fœtal and maternal structures occurred during the life of the ovum, and in all probability led rapidly to the death of the fœtus.

Observations of this kind are very rare, and practically nothing is known of the pathology of early abortion beyond hæmorrhage and detachment, and the changes

* 'Anatomie menschlicher Embryonen.'

which follow them. Attention is generally directed to moles and macerated specimens, and in these, as I have pointed out, it is practically impossible to recognise any changes except those which occurred subsequent to the death of the fœtus, *i. e.* post-mortem changes. It is therefore impossible to do more than record the conditions observed in this case, and direct attention to one or two ætiological considerations which seem worthy of acceptance.

(1) The changes in the decidual cells may be described as myxomatous and fatty degeneration ; I am not aware that similar changes have ever been described in the endometrium.

(2) The universal distribution, and advanced extent of the changes in the decidua suggest that this structure was first affected, and the chorion later ; also it is to be borne in mind that the patient was known to have an enlarged uterus before conception occurred.

(3) The vacuolation changes in the chorion are precisely similar to the changes in the decidual cells, but, as already explained, it is doubtful if the fat deposit in the villi is pathological.

(4) It may be that the ovum was engrafted upon an unhealthy endometrium, the resulting decidua being also unhealthy, and in its turn inducing a morbid condition of the fœtal membranes, resulting in the early death of the fœtus. The intimate relations which exist between the chorion and the decidua in the early weeks of development readily explain such a course of events.

(5) The chronic nephritis from which the mother suffered may possibly be the ultimate pathological factor, but this conclusion cannot safely be deduced from a single example.

The PRESIDENT observed that a great deal had been written recently by British and foreign observers on eclampsia. The source of the disease and its treatment had been much disputed. Winkler insisted that it always arose from renal disease in the mother, whether from old chronic nephritis or from the normal

kidney changes in pregnancy. Hoffmann traced it to toxæmia in the mother from carbamide of ammonium. On the other hand, Baron and Castaigne declared that eclampsia arose from toxic elements developed in the living fœtus, the fits often ceasing when it died. Schaller, on the other hand, in a work where he showed that pregnant women bear in their blood not glucose but phlorizdin and glucoside, seemed to have little belief in any active influence of the fœtus, denying that its kidneys ever acted before parturition. As with these theories so it was with Drs. Griffith and Eden's case: the mother had nephritis; the fœtus showed diseased tissues; so it was not certain where the origin of the eclampsia lay, though most likely it lay in the mother. As for treatment, delivery seemed usually successful, a fact which so far supported Baron and Castaigne's theory. Van Rootjen and Lambinon, of Liege, bled from the median cephalic vein in bad cases, holding that the heart is embarrassed and cannot propel more than a certain amount of blood. But the great success of subcutaneous saline infusions in puerperal septicæmia, and in sepsis after ordinary abdominal sections (Howard Kelly), seemed to indicate the correct treatment for eclampsia unrelieved after expulsion of the fœtus. Ostermayer's successful treatment of a very bad case of sepsis after abortion * by daily injections of small amounts of the infusion for a fortnight till all the bad symptoms had vanished, showed the value of the treatment in blood-poisoning. Poncet and Vinay treated successfully a severe case of eclampsia by this method. Davis, of New York, also saved both an *ante-partum* and a *post-partum* case of puerperal convulsions by saline effusions, with the hot-pack and hypodermic injections of veratrum viride. Whatever the source and nature of a blood-poison might be, surgery could remind obstetrics that dilution of the blood with sterilised water containing salt greatly reduced its virulence.

Dr. Lea asked what were the severe symptoms rendering artificial abortion necessary at five weeks' gestation? The immediate improvement which followed the evacuation of a dead ovum from the uterus seemed to him to support the view of a toxæmia being the cause of the nephritis becoming so much aggravated.

Dr. Stabb asked Dr. Griffith whether the percentage and daily amount of urea had been estimated, this being, in his opinion, much more important in its relation to eclampsia than the amount of albumen, subcutaneous œdema, &c.

Dr. Amand Routh asked why Dr. Griffith had adopted the slow method of inducing premature labour by inserting a flexible bougie instead of the more rapid and certain one of

* 'Centralblatt f. Gynäk.,' March 25th, 1899.

rupturing the membranes, considering the grave state of the patient. He also asked whether it was ascertained what were the *relative* quantities of serum, albumen, and paraglobulin in the patient's urine. He thought the evidence that puerperal eclampsia was due to a toxæmia was clear, and that the origin of the toxine was some tro-chemical change in either the placenta or the fœtus.

MAY 3RD, 1899.

ALBAN DORAN, F.R.C.S., President, in the Chair.

Present—30 Fellows and 3 visitors.

Books were presented by the Staffs of the Middlesex Hospital and of Boston Lying-in Hospital, U.S.A., and by the Société d'Obstétrique, de Gynécologie, et de Pédiatrie de Paris.

Cuthbert Lockyer, M.D., B.S.Lond., Albert W. Bowie, M.B., C.M.Edin., were admitted Fellows of the Society.

Harry Jackson Watson (Toronto) was declared admitted.

TWO CASES OF DOUBLE TUBERCULOUS PYOSALPINX.

Shown by J. H. TARGETT, M.S.

THESE cases were under the care of Mr. Rutherford Morison, of Newcastle, and their clinical histories were very similar. They were both middle-aged women, married, but sterile. Their chief cause of complaint was dysmenorrhœa and dyspareunia; the menstrual periods were regular, though profuse, and there had been no intermenstrual hæmorrhage. One of the cases had

recently suffered from abdominal pain and tenderness, which was afterwards explained by the twisting of the pedicle of a dilated Fallopian tube. With this exception the patients had been free of pain or feeling of illness; they were healthy in appearance, and there was no history of previous uterine disorders, gonorrhœa, or vaginal discharges. Inquiry failed to elicit a history of tubercle in either family, and the patients themselves presented no evidence of it.

The specimens exhibited were removed by abdominal section. The larger pair of Fallopian tubes was filled with thick, putty-like contents, and may be described as follows:

The left tube is dilated into a large oval cyst, which measures after contraction in spirit 5 inches in its long diameter and 3 inches across at the broader end. The surface presents some recent adhesions which are very soft and delicate, and are most abundant in the vicinity of the pedicle of the pyosalpinx, which is twisted. The cut surface of the pedicle shows the effects of torsion, and the tissues are much infiltrated with blood. On section the wall of the pyosalpinx is nearly a quarter of an inch thick, and is darkened by the extravasation of blood into its coats. The thickness of the wall is partly due to this blood, and partly to the presence of a thick layer of inflammatory tissue lining the cyst. The left ovary projects from the wall of the cyst, and its substance is much infiltrated with blood. Numerous corpora fibrosa and a few dilated follicles are seen on section.

The right tube does not materially differ from its fellow in size and shape, but the wall is thin and almost translucent in places, which makes a sharp contrast between the two specimens. Apparently this difference is due to the changes resulting from the torsion of the pedicle of the opposite tube. The serous surface of the right pyosalpinx is free from adhesions, and its lining membrane is thickly studded with yellowish-white nodules the size of a pin's head or less, which are in the substance

of the mucous coat. The cut surface of the uterine end of the Fallopian tube shows a similar yellowish-white thickening of its mucous coat. The right ovary is free from adhesions, is not attached to the dilated tube, and is normal in size. On section it shows many old corpora lutea. The pedicle of this pyosalpinx is not twisted.

The smaller pair of Fallopian tubes now exhibited likewise contained thick pus, in which granular pus-cells were easily recognised under the microscope. They form two banana-like swellings, unlike the retort-shaped cyst so characteristic of the common pyosalpinx. The abdominal ostia are closed from within (salpingitic closure) and the large fimbriæ are clearly seen stretching over the dilated end of the tube. In this respect these tubes differ from those above described. There are practically no adhesions on the surface, merely a few fine threads. The walls are remarkably thin, and therefore when emptied these tubes more closely resemble a hydrosalpinx than a pyosalpinx; yet the contents were unquestionably purulent. The interior was lined with an adherent layer of lymph and pus. The ovary and mesosalpinx on one side are normal, and in no way adherent to the pyosalpinx; the opposite ovary was not removed. Microscopical examination of the walls of the pyosalpinx in both cases yielded no histological evidence of tubercle, but transverse sections of the undilated uterine ends of the tubes showed abundant infiltration of the mucous membrane with grey and caseous tubercles, possessing well-developed giant-cell systems. The mucous coat in the dilated portions was in large measure destroyed, and replaced by inflammatory tissue in various stages of fibrosis.

Remarks.—The anatomical features of these dilated tubes, as revealed by operation, were no less remarkable than the clinical histories of the patients. For this reason the specimens were submitted to careful examination with the view of determining the cause of the pyosalpinx, which was by no means apparent. Mr. Targett

called attention to the fact that active tuberculosis was present chiefly in the undilated portion of the tube, and that its existence might have been easily overlooked in a mere examination of the wall of the pyosalpinx, for there the tuberculous tissue had undergone fibrosis. He pointed out that this variety of pyosalpinx differed from that usually seen in the absence of adhesions, the large size and elongated shape of the distended tube, and the small degree of thickening of the cyst-wall. Though the abdominal ostium was closed, the fimbriæ remained unaltered on the surface of the dilated tube. Owing to the absence of adhesions the ovary and mesosalpinx were distinct, and there was an increased risk of twisting of the pedicle of the cyst. The fact that such a pyosalpinx is tuberculous in origin must now be recognised, and it was further interesting to note that in these cases no other evidences of tubercle were discovered, either on clinical examination or at the operation. Hence, a sporadic infection of tubercle may occur primarily in the Fallopian tubes as it does in a joint, and may remain thus localised for an indefinite period of time without becoming generalised, or even extending to the adjacent peritoneum. The specimens recently described by Dr. Roberts* were probably of the same nature, and Mr. Bland Sutton† had seen four specimens of large legume-shaped tubes, which he considered to be due to congenital non-inflammatory stenosis of the abdominal ostia. But from the description given of these preparations and the histories of the cases, Mr. Targett was of opinion that they also were tuberculous in origin.

Dr. Cullingworth said that the case was of peculiar interest from the persistence with which Mr. Targett had prosecuted the search for tubercle bacilli and his eventual discovery of them beyond the limits of the pyosalpinx itself. There were several somewhat similar cases on record, but up to the present time their true nature had remained matter of conjecture. In

* 'Trans. Obstet. Soc.,' 1898, vol. xl, p. 121.

† 'Diseases of Ovaries and Tubes,' 2nd edit., p. 214.

a case which he (Dr. Cullingworth) had described and figured in his 'Clinical Illustrations of the Diseases of the Fallopian Tubes' (p. 14), the patient was a sterile married lady in whom both sepsis and gonorrhœa could almost certainly be excluded. Mr. Shattock examined the specimens with the full expectation of finding evidence of tubercle, but no bacilli were discovered, though many sections were cut in the search for them. The specimen was now in the St. Thomas's Hospital Museum. Another case had been published by Mr. Butler Smythe. The patient was a young, unmarried lady. The operation took place in 1893, and both tubes were enormously distended with pus. The specimen, now in the museum of the Royal College of Surgeons, had been examined, with entirely negative results, by Mr. Bland Sutton. A third case was brought before the Society last year by Dr. Hubert Roberts (see 'Trans. Obstet. Soc.,' vol. xl, p. 121). The tubes there, too, were greatly distended with pus, and a prolonged and careful examination had been made both for tubercle bacilli and gonococci by Dr. F. W. Andrewes, of St. Bartholomew's Hospital. Many slides were searched and cultures made, but no evidence of either tubercular or gonorrhœal infection was forthcoming. Dr. Roberts's case resembled Mr. Targett's in the comparatively slight amount of surrounding peritonitis. In the discussion upon Dr. Roberts's specimen Mr. Bland Sutton spoke of having seen four similar cases (including Mr. Butler Smythe's) and expressed the opinion that they had a different mode of origin from the common forms of pyosalpinx. Mr. Targett's discovery of tubercle bacilli in his case constituted a most important step towards the elucidation of this curious condition.

Dr. Herbert Spencer said he thought the specimens shown by Mr. Targett were of great interest and very rare. He had operated upon a lady a few days ago who, fifteen years previously, had been tapped and thirteen and a half pints of fluid withdrawn. The abdomen never became quite flat; but her health remained good throughout. A few months ago the abdomen increased in size, and a large quantity of fluid was found by Dr. Norwood Brown to be present. He saw the case in consultation, and except the fluid and a very slight thickening around the uterus nothing was to be felt. The diagnosis lay between a ruptured ovarian cyst and tubercular peritonitis, and an exploratory operation was decided on, Sir John Williams also seeing the case and agreeing. Several pints of fluid were evacuated, and the lower abdominal wall and small intestines were covered with small tubercles; the upper part of the intestines and wall were almost free from tubercles. Both tubes were closed and were removed; they were quite free from adhesions, and the right one contained thick pus and was about as thick as the forefinger. There was no thickening of the

omentum or mesentery, and as far as could be made out no deposit of tubercle elsewhere.

A SPECIMEN OF FŒTUS ENCLOSED IN AMNIOTIC SAC ONLY.

Shown by Dr. Purslow (Birmingham).

The fœtus, which was at the fourth month of development, lay in its unruptured amniotic sac, the latter being about five inches in diameter, there being no chorion or placenta attached, and the fœtus could be distinctly seen through the transparent amnion. The umbilical cord had given way at its placental attachment, and the whole length of the cord was visible, with the fœtus inside the sac, a depression on the wall of the latter indicating the torn end.

The specimen was obtained from a woman of about thirty years of age, who had had three children but no previous miscarriages; she had suffered from retroflexion and had been treated by pessaries. The specimen was spontaneously expelled, the expulsion being preceded by a few pains but no hæmorrhage. The chorion and placenta were expelled subsequently, and their naked-eye appearances were normal.

The expulsion of the entire sac of the ovum is frequently met with at all stages of pregnancy, but such a result as the one I have described is very rare. At the time of the occurrence I sent a short note of it to the 'Lancet,' asking for information as to whether it had been previously noted. Prof. H. R. Spencer replied in a letter (for which I take this opportunity of thanking him) that a similar specimen had been shown at this Society by the late Dr. Graily Hewitt; it is recorded in vol. xxxiii, p. 462, of the 'Transactions,' and appears to have resembled in all respects the specimen I

am showing to-night. Dr. Graily Hewitt remarks that the specimen is one of extreme rarity. I have not been able to discover any other record of this occurrence by English writers.

Dr. Herman had some years ago exhibited to the Society the amniotic sac of an early embryo which had been expelled separately from the chorion and placenta.* A similar specimen had been described by Smellie.† In that case the embryo was visible when expelled, but within a day was partly dissolved by the liquor amnii.

A SPECIMEN OF CYST OF THE BROAD LIGAMENT.

Shown by Dr. Purslow.

The cyst, which had contained ten pints of fluid, was removed by abdominal section from a single woman twenty-five years of age, and had been growing for three years.

Some difficulty was experienced in tapping the cyst; after the abdomen was opened, the trocar passing in three or four inches without any fluid coming, it was withdrawn and again introduced and the cyst evacuated. It was found possible to make a pedicle by removing ovary and tube with the cyst, and the pedicle was tied with interlocking silk ligatures. No washing out or drainage was used, and patient made an uninterrupted recovery.

The specimen shows that the cyst differs from the ordinary broad ligament cysts in having very thick and tough walls, though it is unilocular. The ovary can be seen, and presents a recently ruptured corpus luteum. The Fallopian tube is stretched over the peritoneal

* 'Trans. Obstet. Soc.,' vol. xxiii.

† 'Midwifery,' N. S. S. edit., vol. ii, p. 66.

investment of the cyst, and measures eight inches in length but is otherwise unaltered. The collapsed cyst lies within the sac formed by peritoneum, and can be moved about within that sac in a very curious way, appearing to have only slight fibrous connections here and there, with its investing peritoneal covering. This appears to explain the difficulty met with in tapping the cyst alluded to above, and it is apparent that at its first introduction the trocar ran down between the cyst wall proper and the layers of broad ligament covering it.

The PRESIDENT believed that Dr. Purslow's tumour was an unusually thick-walled cyst of parovarian origin. The mesosalpinx had not undergone corresponding hypertrophy.

Dr. HERBERT SPENCER thought that authorities might differ as to the necessity of removing the ovary, which appeared quite healthy in this case. His own practice had been, like Dr. Purslow's, usually to remove the ovary with the cyst when a convenient pedicle could be made. In other cases he had enucleated the cyst and drained the cavity of the ligament. Cases so treated made very easy recoveries, whereas stitching up the broad ligament and dropping it into the abdomen was sometimes followed by oozing into the cavity, and it had happened to him to remove infected stitches from a broad ligament sewn up by one of the chief advocates of that method.

A SPECIMEN OF TUBAL ABORTION.

Shown by Dr. GALABIN.

THE patient was aged 23, had been married two years, but had no previous pregnancy. She had suffered from dysmenorrhœa.

On October 1st, 1898, menses came at the expected time but lasted only one day, the usual duration being four to five days. Two days after, while turning a wringer, she felt faint for a minute, but continued at the wringer.

On October 12th, while sitting at needlework, she was attacked by acute pain in the abdomen below the umbilicus, lasting for four hours. It was relieved by hot fomentation. The pain recurred daily, but she daily got up and did her work.

On October 19th she went out to consult a doctor. While she was out pains came on, accompanied for the first time with vomiting, and she had to be taken home in a cab.

On examination there was a yellowish vaginal discharge; no blood. The breasts were enlarged and painful, and the areolæ darkened. Coughing gave great pain, and there was difficulty in micturition. The pain was greatest in left groin. From this time she was kept in bed, and remained in a similar condition.

On October 26th she was attacked again with intense pain, accompanied by collapse and pallor, and followed by constant vomiting. For a time she was pulseless. Internal hæmorrhage, probably due to ruptured tubal fœtation, was diagnosed. Dr. Galabin saw her in consultation with Mr. Maurice Duke in the evening, when she had rallied somewhat, but was still vomiting incessantly. Temp. 97°. Abdominal section was arranged for early the next morning. There was still no discharge of blood *per vaginam*.

At the operation a very large quantity of clot and blood was found in the peritoneal cavity. The clot was partially adherent to the peritoneum, and could not be entirely removed. The ovum, a mass of chorionic villi infiltrated with clot, about two inches in diameter, was found sticking to the fimbriated extremity of the left tube, but not firmly adherent. The left tube and ovary were removed. Amongst the blood removed from the peritoneal cavity was found the embryo enclosed in the intact amnion. It was about one third of an inch in length, and therefore of not more than about four weeks' development.

The abdomen was closed without drainage, and the

patient made a good recovery, except that vomiting continued for two days after the operation. Menstruation recurred on October 30th.

The tube removed showed no rupture, and no indications of the spot where it had been dilated. The ovary contained a corpus luteum of pregnancy.

The notable points of the case were that the symptoms appeared as severe as, and indistinguishable from, those of ruptured tubal fœtation ; that repeated hæmorrhages appear to have occurred ; that the tubal abortion was accompanied by no sanguineous discharge from the vagina; and that neither the pregnancy, the abortion, the hæmorrhage, nor the operation interfered in any way with the normal rhythm of menstruation, except that the period which occurred during pregnancy was very short.

The PRESIDENT turned attention to the small size of the fœtus in Dr. Galabin's case. It reminded him of the minute embryo found loose in the peritoneum, which he exhibited for Dr. Arthur Beale in 1893 ('Transactions,' vol. xxxv, p. 222), and showed how easily such a fœtus might be lost. Collective work on tubal gestation was urgently needed.

Dr. AMAND ROUTH drew attention to the rapidity with which a Fallopian tube resumed its normal appearance after tubal abortion, as pointed out recently by Dr. Cullingworth. Dr. Routh desired to add to the history of a case of ruptured Fallopian tube upon which he had operated on May 9th, 1898, as reported in the 'Transactions' of the Society in vol. xl, p. 220. The woman had, during April, 1899, been naturally delivered of a full term child, eleven months after the operation.

UTERUS AND APPENDAGES WITH RUPTURED PREGNANT TUBE.

Shown by AUGUSTUS W. ADDINSELL, M.B., C.M.Edin.

FIBROID OF THE BROAD LIGAMENT WEIGHING FORTY-FOUR AND A HALF POUNDS (TWENTY KILOGRAMMES) REMOVED BY ENUCLEATION; RECOVERY. WITH TABLE AND ANALYSIS OF THIRTY-NINE CASES.

By Alban Doran, F.R.C.S.,
SURGEON TO THE SAMARITAN FREE HOSPITAL.

(Received November 13th, 1898.)

(*Abstract.*)

In this case, where the tumour seems to be the heaviest of its kind on record, the patient was 28, and her last confinement was six years before operation. Shortly afterwards a tumour developed in the left iliac fossa; three years later it became impacted in the pelvis. Dr. Ward Cousins succeeded in pushing it into the abdominal cavity; this gave great relief, but the tumour grew rapidly and albuminuria and anasarca set in. The catamenia remained normal throughout. The tumour grew in such a manner that the lower ribs were not stretched out, but pushed back behind it. In order to spare as much blood as possible, the ovarian and round ligament vessels were ligatured proximally and distally, the capsule divided between the ligatures, which were then tightened, and lastly the incisions in the capsule united, so that after its complete division horizontally, and the securing of the cervix uteri, the tumour was enucleated without loss of blood. The cut edge of the capsule was drawn together

with a purse-string suture, its cavity being packed with iodoform gauze. The serre-nœud was left on the cervix as it answered well its purpose, and lay separated by the capsule and its packing from the peritoneal cavity. Though very weak for a few days, the patient did well. The packing was removed in forty-eight hours; the deep cavity soon shrunk up.

The author, after reviewing earlier tables prepared by Sänger, Bayard Holmes, and Lang, brings forward a table of thirty-nine cases of "fibroid" (fibroma and myoma) of the broad ligament, with an analysis. In no less than six the patient was under thirty years of age, and in just as many over fifty. Menstruation seems unaffected, nor was flooding ever noted. In two cases, including the author's, there were renal symptoms, from pressure on one ureter. The growth is often rapid, but in Binaud's case, closely watched for two years, the tumour only attained the weight of 9 oz. The large tumours cause considerable discomfort, interfere with nutrition, but rarely prove painful. In twenty-seven cases, including all under 20 lbs. in weight, the tumour was sessile, embedded in the folds of the broad ligament. In eleven, possibly twelve, the tumour was pedunculated; in one the pedicle was twisted. In twenty-five cases the weight was given. The tumour weighed over 40 lbs. in one, the case here related; between 30 and 40 lbs. in two; between 20 and 30 lbs. in two; between 10 and 20 lbs. in ten; between 1 lb. and 10 lbs. in 8; and under 1 lb. in two. Of nine pedunculated cases, six or possibly seven recovered from an operation resembling ovariotomy. Six out of twelve simple "enucleations" of sessile tumours died, but all six date from before 1890. Vautrin, of Nancy, twice did pan-hysterectomy after enucleation, saving both patients. Pollosson, of Lyons, successfully enucleated the tumour, deep in the pelvis, from under the peritoneum ("para-peritoneal" method). In three severe cases the serre-nœud or elastic ligature was applied to the cervix. All recovered. When the tumour is small, and limited to the side from which it originated, it may sometimes be safely removed with its ovary and tube, the hypertrophied connective tissue uniting it to the uterus serving as a pedicle. When the tumour is large, the removal of both appendages and amputation of the uterus is usually unavoidable. Retro-peritoneal hysterectomy is probably the best procedure, if practicable. The chief duty of the

surgeon in enucleation of broad ligament tumours is to avoid loss of blood. The patients are nearly always sickly and anæmic (although flooding does not occur in this class of tumour), and they bear hæmorrhage badly. The author urges the method which he adopted as the best way of avoiding loss of blood. Pressure forceps on the distal side are untrustworthy.

The tumour in the case which I am about to record is, I believe, the largest of its kind ever removed by operation.

The patient, J. B—, was 28 years old, and had been married nine years. A year later she was delivered of her first child, at the sixth month. Two years later her second and last was born at term spontaneously; but the labour lasted three days and three nights for reasons unexplained at the time. The period occurred regularly every fourth week, but latterly the show was less regular, recurring for a day or two after twenty-four hours' disappearance. It was never profuse. Of late the patient suffered from severe pain during menstruation.

More than five years ago, within a year after her second confinement, Mr. T. W. Mead, of Portsmouth, detected a swelling in the left iliac fossa. It grew slowly for two years. In October, 1896, when she was under the care of Dr. Ward Cousins, in hospital, the tumour reached nearly to the umbilicus. The cervix lay high up behind the symphysis, the pelvis being blocked by a growth continuous with the uterus. Dr. Cousins pushed the tumour out of the pelvis. A year later the patient was readmitted under Dr. Cousins with acute œdema and renal symptoms. According to a note which he kindly sent me "the tumour was then fairly out of the pelvis and the cervix scarcely within reach. It had much increased in size." The increase was rapid from then till her admission into the Samaritan Hospital on September 27th, 1898, under my care.

At that date she was greatly emaciated. A large tumour occupied the whole abdomen except the flanks.

It was specially remarkable for its extreme prominence. Superiorly it had grown forward in such a manner that, instead of stretching the lower ribs, they were, on the contrary, almost impacted behind it.* The girth of the abdomen at the umbilical level was 46 inches. The other measurements were as follows: ensiform cartilage to umbilicus 12½ inches; umbilicus to symphysis pubis 14¾ inches; right anterior superior spine of ilium to umbilicus 15⅛ inches; left anterior superior spine of ilium to umbilicus 14½ inches.

The parietes were thin, with dilated veins, but no sign of œdema. The inguino-femoral glands were not enlarged. The surface of the tumour was much lobulated, its substance felt very elastic; indeed, I fancied that I could detect obscure fluctuation.

The vagina was greatly stretched upwards, and it was impossible to reach the cervix. No part of the tumour, nor of the normal genital tract besides the vagina, could be felt either on vaginal or rectal examination. The catheter, passed into the urethra, could be pushed upward and to the right, till its point stopped a little above the middle of the right groin.

The legs, especially the left, were œdematous, but the œdema nearly disappeared after two days' rest. The urine was passed in abundance; it was clear, pale yellow, of low specific gravity, and distinctly albuminous. It remained of the same character six weeks after operation, and apparently had not altered for several years.

At the beginning of her illness, five years ago, the patient suffered for six months from vomiting after food; she was then very anxious, and drank great quantities of tea. The legs, she declared, were often swollen, even at that early stage. The vomiting at length ceased, never to return, nor did she ever suffer from headaches, nausea, or disordered vision. No casts were to be found.

The pulse was 108, small and regular. The tempera-

* This condition was perhaps the most remarkable feature in the case. I have never seen it in any other case.

ture was 99° on the evening of admission, but remained subnormal after the first day. The patient's condition was very bad and the tumour felt quite fixed, but she begged that an attempt might be made to remove it. I accordingly operated on September 29th, Mr. Targett assisting, and Dr. Butler administering the anæsthetic. The parietes were first washed with a strong solution of biniodide of mercury in spirit; the sponges were kept in a 1 in 2000 solution of that salt, and the instruments in a 1 in 40 solution of carbolic acid.

The patient lying at first in the horizontal position, I made a very free incision extending more than four inches above the umbilicus; then I succeeded in delivering a huge, solid, elastic tumour, firmly fixed below and laterally by its peritoneal relations. It had made itself a capsule of the whole of the pelvic peritoneum, opening up both broad ligaments to the level of the ovaries, and of the peritoneum of the right and left lumbar regions and the left iliac fossa. On the capsule lay the ascending colon, also part of the descending and sigmoid flexure, the bladder (in the right groin, as indicated by the catheter), the uterus, of which the fundus lay obliquely to the right, just below the umbilicus, the left cornu highest, the ovaries greatly elongated, and the tubes each with its mesosalpinx unopened.

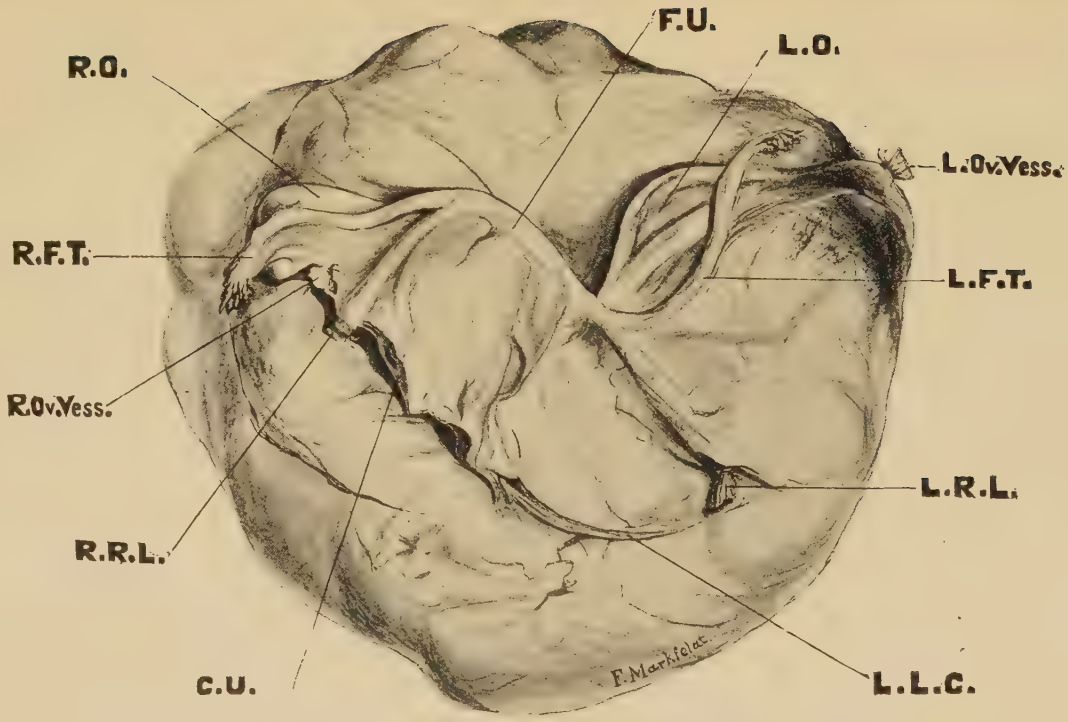
The right ovarian vessels formed a short cord as thick as two fingers, running obliquely downwards; the left appeared as a great mass passing several inches upwards and outwards. I determined to secure as many vessels as possible before enucleation, so as to avoid hæmorrhage as much as possible.

I passed a pedicle needle, armed with No. 4 silk, under the right ovarian vessels and tied them, then I passed another ligature about two inches higher up. I divided the vessels by a horizontal incision through the capsule, midway between the ligatures, which were then pulled tighter. The right round ligament, greatly elongated, was treated in the same way. I then tore

down the capsule, snipping horizontally from right to left, till I came near to the left round ligament. I found that the cervix uteri formed a thick cord or pedicle running for several inches downwards. I secured it and the uterine arteries with a serre-nœud, clamped it nearer to the body of the uterus, and divided it. The nature of the tumour was now evident. I divided and pushed down the capsule posteriorly from right to left from the ligatured right ovarian vessels to the left ovarian vessels. The ascending colon retreated backwards with the detached capsule. The left ovarian vessels, and also the vessels of the left round ligament, were now secured with great care just as on the right side. In a case of the same kind, in future, I shall, as in this case, secure and divide all the vessels on both sides before attempting enucleation.

I now enucleated the base of the tumour. In doing so, I saw the left ureter, greatly dilated, passing over the division of the common iliac artery. There was great shock at this stage as the huge tumour came away, but thanks to the precautions just described, hardly a drop of blood had been shed during the whole of the operation.

The pelvis was elevated, and thus I had a good view into the vast chasm in the peritoneum; the patient's condition at once improved. The serre-nœud answered well, and the cervix was really far from the peritoneal cavity; besides, I did not wish to lose time in dividing its tissues and sewing it up, securing the uterine vessels again. I therefore let it remain, after taking up the right ovarian vessels, already ligatured, in the wire loop. Sponges had been stuffed into the chasm, and I made a purse-string suture with No. 2 silk along the cut edge of the capsule. The upper part of the abdominal wound was closed, the parietal peritoneum was sewn to the outer side of the capsule, close to the lower angle of the wound, and the sponges replaced, after about three small bleeding points had been secured, by iodoform gauze.



Tumour of the left broad ligament, weighing 44 lbs. 8 oz. F.U. Fundus uteri. C.U. Cervix uteri. R.O., L.O. Right and left ovary. R.F.T., L.F.T. Right and left Fallopian tubes. R.OV.VESS., L.OV.VESS. Right and left ovarian vessels. R.R.L., L.R.L. Right and left round ligament. L.L.C. Lower limits of the upper part of the capsule, removed with the tumour.

The abdominal wound was dressed with alembroth gauze, the big concavity between the ribs and the pubes being filled up with a thick pad. The patient was then returned to bed.

The tumour was exhibited at the November meeting of the Obstetrical Society. When fresh it weighed 44 lbs. 8 oz., or a little more than 20 kilogrammes. The appended drawing illustrates the relations of the part of the genital tract removed with it. The ligatures on the ovarian vessels and the round ligament are depicted. I prefer tying those structures on the distal side to trusting to pressure forceps, which are apt to slip, and are much in the way of operative manipulations.

The circumference of the tumour was 3 feet 3 inches, or just 1 metre. Its vertical measurement was 14 inches, its greatest width 15 inches, and its greatest antero-posterior measurement 11 inches. It was ovoid, very pale red in colour, and indistinctly lobulated. It felt uniformly elastic, and on section appeared like a soft œdematous uterine "fibroid." Mr. Shattock reported: "The growth is a fibroma containing no muscle-cells in part examined, which was a portion at the depth of half an inch from the actual exterior."

The relations have already been described in the account of the operation. The tumour was entirely retro-peritoneal. On both sides the mesosalpinx or upper part of the broad ligament was entirely unopened. Just the contrary is seen in the common parovarian and other well-known broad-ligament cysts and in most ovarian cysts, when they burrow into the broad ligament, for they nearly always * select the mesosalpinx and open it up, touching and stretching the tube.

The surgeon must never forget the significance of an intact mesosalpinx on the top of a tumour.

* I once removed one of the rare class of ovarian cysts which burrow into the lower part of the broad ligament, leaving the mesosalpinx intact. (Case V, "Capsules, False and Real, in Ovariotomy: with Notes of Six Cases," 'Brit. Med. Journ.,' 1896, vol. i, p. 960.)

The uterus measured 4 inches, and was extremely flattened; the beginning of the cervix was deflected to the right. The fundus was $3\frac{1}{2}$ inches wide. The mucous membrane of the canal was pale; the cut surface admitted a No. 8 catheter. The remainder of the cervix, left behind, formed a flat strap about one inch broad, running downwards on the capsule and curving from the right to the middle line, where it passed into the pelvis. The uterine tissue felt quite soft, without any trace of a "fibroid" growth. The whole uterus slid on the front of the tumour, to which it was only connected by the ligaments. The tumour had not invaded the uterine peritoneum.

The right Fallopian tube, 4 inches in length, was unobstructed, as was the left, which measured 5 inches. The right ovary, $2\frac{1}{2}$ inches long, was greatly flattened. It contained three well-marked corpora lutea, one quite recent. The left ovary, $3\frac{1}{2}$ inches long, bore no vesicles, nor corpora lutea; the stroma was uniformly loose. A small blood-cyst, $\frac{1}{8}$ inch in diameter, lay close to the ovarian ligament.

The perfect ovulation on the right side and the regular menstruation in this case, where the uterus and ovaries were so misplaced, are of high clinical interest.

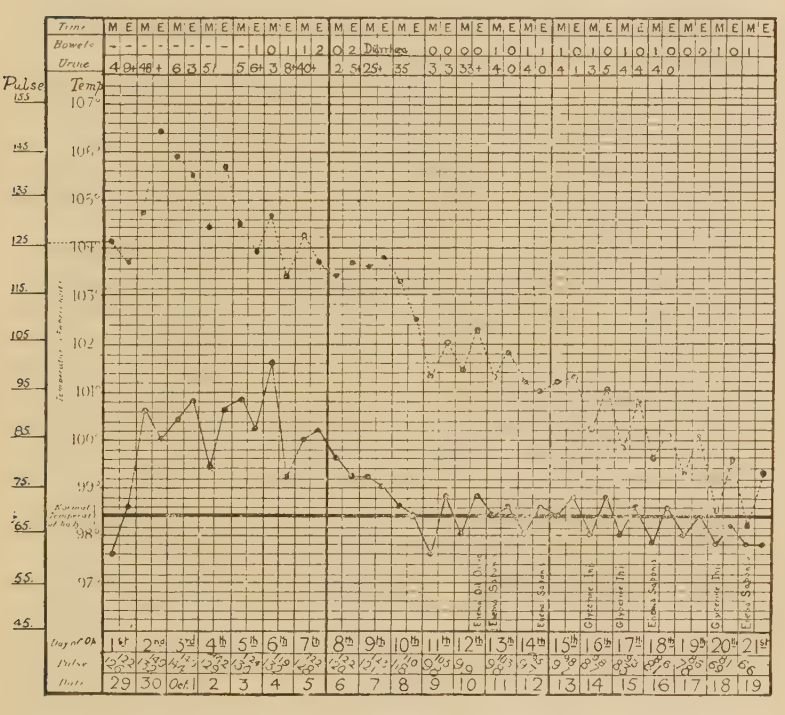
Convalescence after operation.—For two days the patient was in a state of great exhaustion. Stimulant and nutrient enemata were given freely, but milk and meat suppositories proved more satisfactory, as the enemata were not all retained. Twenty-two hours after the operation a severe attack of dyspnœa occurred. The pulse rose to 144, the temperature to 100·8°. On the other hand there was absolutely no restlessness, the patient slept frequently, and flatus passed freely. Urine was also excreted very freely, the catheter not being required after twelve hours. The urine was clear, pale yellow, of low specific gravity, and contained a trace of albumen, but it had been so before the operation and remains so. In forty-eight hours I removed the plug, which was deeply soaked, and

replaced it by a rubber tube and a strip of gauze. The stump of the cervix was kept dry with tannin and iodoform powder and packed around with sublimate gauze. The pulse was still weak and rapid; digitalis and nux vomica proved very beneficial. On the fourth day I removed the rubber tube. The capsule contracted with remarkable rapidity. On the sixth day the temperature rose to 101·6°; the pulse, 132, had been quick from the first. Next day diarrhœa set in and continued till the eleventh, causing much exhaustion, but the patient declared that she felt better, and when the attack ceased the temperature fell to normal, and for the first time the pulse fell to under 100.

The appended chart was carefully prepared by Miss Chater, who, together with my head nurse, Mrs. Phillips, took the greatest pains, and not in vain, to bring this most troublesome case to a successful issue. The chart is instructive, and would seem to indicate that the patient's critical condition was due to sheer exhaustion, and not to any sapræmic or septicæmic condition. At first sight the greater proportional rise in the pulse rate compared to the temperature would seem to imply that it was otherwise. But the patient's pulse was 108 before the operation. I agree entirely with Dr. Howard Kelly, who writes: "I have repeatedly seen patients recover whose pulse rate was as high as 140 or 150 for some hours; in one instance the pulse ranged between 150 and 162 for three days, after which the patient made an uninterrupted recovery."* For my own part I have seen high pulses persist for many days in feeble patients otherwise doing well. The sharp rise of temperature marked on the chart on the sixth day probably indicated some intestinal irritation. It will be seen that the pulse was then falling, and that both pulse and temperature continued to fall even on the ninth and tenth days, when the diarrhœa was very

* 'Operative Gynæcology,' vol. ii, p. 72. He further declares that he removed an ovarian cyst from a feeble old woman, whose pulse went up to 210 during the operation—at one time to 240; yet she made a good recovery.

severe. Perhaps absorption of iodoform accounted, to a certain extent, for the high pulse. On the ninth and tenth days the patient took two grains of quinine every four hours. This dosing caused no unpleasant symptoms, and the patient's strength quickly improved.



Fibroid of the broad ligament weighing 44 lbs. 8 oz. Pulse and temperature chart for twenty-one days after the operation.

By the twelfth day all the sutures had been removed. The parietes were so lax that there was absolutely no strain on the cicatrix. The cavity was now syringed out daily with antiseptic lotion (biniodide of mercury, 1 in 2000) alternately with lotio rubra. The serre-nœud came off on the tenth day, the last piece of slough from the cervix on the twenty-second. After that space of time I

dressed the cavity, now very shallow, with red lotion. The lotion, if syringed into the cavity, escaped from the vagina, and vaginal injections came out at the lower angle of the abdominal wound. The cervix was, I found on vaginal examination, a mere thin diaphragm ; it had come down low, and nothing could be felt in the fornices. The patient had escaped both perimetritis and pelvic cellulitis.

The patient's pulse became absolutely normal after the end of the second week. At the beginning of the fifth week she was allowed to leave her bed. She was discharged in excellent health on November 9th, and was quite well on May 1st. The wound was reduced to a pit hardly an inch in depth ; the cavity of the capsule was indicated by a sinus hardly an inch deep.

Pathology of fibroid of the broad ligament practically settled.—There appears to be now no doubt that fibroma or myoma may develop in the broad ligament quite independently of the uterus. Arguments on the pathology of this subject will be found in the writings of Sänger, Billfinger, Gross, and Vautrin, indicated under the reference column in the tables.* That there is fibrous tissue between the folds of the broad ligament nobody is likely to deny. There is, it is admitted, plain muscular fibre in the round and in the ovarian ligament, both which bands are sometimes the seat of large solid tumours. About muscle in the broad ligament proper our ideas are more vague. Nevertheless, its arrangement was carefully studied by Rouget forty years ago.† He found that the

* Since I prepared this communication, M. Griffon's note on a "Fibro-myome aborigène du ligament large" has appeared in the 'Bulletins et mémoires de la Société Anatomique de Paris' (January, 1899, p. 79). The tumour, found during the post-mortem examination of a woman aged thirty-two, had caused no symptoms. It was of the size of a duck's egg, and united to the ovary by a distinct mesentery, partly reflected on to the infundibulo-pelvic ligament. The uterus was absolutely distinct from the tumour, which had displaced it backwards. This case resembles Billfinger's (Tables, No. 14). Lang's tables include half a dozen cases of latent tumours of the broad ligament first discovered at the necropsy.

† "Recherches sur les organes érectiles de la femme, et sur l'appareil

muscular fibres in the broad ligament, when they come near the side of the uterus, interlace, some of the posterior fibres coming to the front, and some of the anterior passing behind. They thus form a dense muscular sheath in this region as they run into the uterine tissue. In woman, "as in other mammals, the uterus and its appendages are included in the substance of a wide muscular membrane of which the so-called peritoneal ligaments are mere dependencies." *

This sheath deserves further study. In any case it is clear that there is muscular tissue in the broad ligaments, so that a myoma may well develop in it independently of the uterus. A fibroma may certainly so develop. In my case the body and cervix were alike absolutely independent of the tumour. Doubtless the growth had its origin in the connective tissue close to the uterine part of the cervix, as others have already observed.

Previous Records.

For the clinical history and surgery of fibroids of the broad ligament it were best perhaps to rely more or less on experience. Tabulation greatly assists us in such study. After Sänger had drawn up his tables, some more were carefully prepared in 1888 by Dr. Bayard Holmes of Chicago,† and a yet more complete set by Lang of Nancy in 1892; ‡ since they were published a number of cases have been recorded, especially by French

musculaire tubo-ovarien dans leurs rapports avec l'ovulation et menstruation," 'Journal de la Physiologie de l'Homme et des Animaux,' vol. i, 1858, pp. 320, 479, and 735. This treatise deserves further study.

* Loc. cit., p. 735, Waldeyer ('Das Becken,' 1899) divides the broad ligament into "mesosalpinx" and "mesometrium;" the latter, beginning below the level of the ovary, contains muscular fibre as well as the well-known parametric connective tissue.

† "Primary Tumour of the Broad Ligament; with a Table of Seventeen Cases," 'Journal of the American Medical Association,' vol. x, 1888, p. 191.

‡ "Les Tumeurs solides privitives des ligaments larges," 'Thèse de Nancy,' 1892.

authorities. I have succeeded in collecting thirty-nine * cases selected as most probably genuine from a pathological and surgical view, and have studied the original reports, excepting in the case of Nos. 2 † and 6.‡

* See note at end of tables, relating to a fortieth case by Jacobs of Brussels.

† The earlier volumes of the 'Prager medicinische Wochenschrift, seem rare in our libraries.

‡ Sänger admits that there were no precise anatomical notes in the original report.

TABLE OF CASES.

Table of Cases of Fibroma and Fibro

N.B.—These tables do not include (1) pure sarcoma of broad ligament (Péan's cas tables, 'Archiv f. Gyn. und Geburts.,' Bd. xxi, p. 279), nor (3) fibroma of ovaria p. 206; and Briggs, "Fibroma of the Ovary and Ovarian Ligament," 'Brit. Me

No.	Age.	Children; catamenia.	Symptoms.	Character of tumour.	Weight.
1	47	Multipara	Spherical elastic tumour; 2 years in development	Sessile myoma of right broad ligament, partly cystic; adherent intestine; uterus and left appendages distinct	—
2	35	Unipara	Tumour noticed after delivery, 1¼ years before operation; rapid growth following symptoms of peritonitis; prolapse of uterus and vagina	Pedunculated elastic fibro-sarcoma (? œdematous fibroma) of right broad ligament; uterus separate	17 lbs. 10 oz.
3	22	Nullipara; never menstruated	Swelling 6 years	Pedunculated fibro-myoma of right broad ligament; dermoid cyst same side; ascites; infantile uterus	11 lbs.
4	42	Nullipara	Swelling 7 years	Sessile myoma of left broad ligament, closely applied to uterus (not evident how far it was cystic)	—
5	19	Unipara; amenorrhœa 7 months	Abdominal swelling; amenorrhœa; prolapse	Pedunculated, bilobed, œdematous fibro-myoma of left broad ligament; left ovary separate	18 lbs. 11 oz.
6	—	—	—	Sessile myoma descending into pelvis, whence it could be pushed up to a certain extent	—
7	35	4-para; regular	Abdominal swelling 3 years	Sessile fibroma in left broad ligament; uterus and both ovaries normal and separate from tumour	39 lbs. 8 oz.
8	—	Multipara	Emaciation; ill 8 years	Sessile fibro-myoma of right broad ligament; ovary and uterus quite distinct	30 lbs. 8 oz.
9	32	Nullipara; regular	Pregnancy suspected; good health; then sudden abdominal enlargement and emaciation	Pedunculated tumour (œdematous fibroma?) connected with left broad ligament; ascites (author not certain it was not ovarian in origin)	12 lbs.

ma of the Broad Ligament.

' in Bayard Holmes's tables), nor (2) fibroma of round ligament (see Sänger's ient, duly recognised (see author's tables, 'Trans. Obstet. Soc.,' vol. xxxviii, n.,' 1897, vol. i, p. 1083).

Operation.	Result.	Operator.	Reporter and reference.
ıe	Died of general chronic peritonitis; pus found under the intestinal adhesion	None	Schetelig, Archiv f. Gynäk. u. Geburts., Bd. i, p. 425 (age given incorrectly, 41, in Sänger's and B. Holmes's tables).
ature and division pedicle	Recovered	Schmid	Schmid, Prager med. Wochenschr., 1878, p. 260.
ature and division pedicle, including ary (pedicle was most sloughy)	Recovered	Mikulicz	Mikulicz, Wiener med. Wochenschr., 1879, p. 576.
tial enucleation; se of "cyst" (cap- le) sewn over	Death 4th day; sloughing of parametric tissue	Gayet	Gayet, Lyon médical, vol. xv, 1874, p. 542.
stated; evidently ature and division pedicle	Recovered	Sänger	Sänger, Archiv f. Gyn. u. Geburts., Bd. xvi, p. 258.
ucleation; rectum rn and sewn up	Died 2nd day; hæmorrhage from some vessel in parametrium	Bardenheuer	Bardenheuer (see Sänger, loc. cit., No. 5, p. 281).
ucleation; left kidy and supra-renal psule lay in pelvis; moved with tumour	Death 5th day from peritonitis	Billroth	Buschmann, Wiener med. Wochenschr., 1880, No. 28, p. 799 (age wrong in some tables).
ucleated; capsule d peritoneum drain- separately	Recovered	Rydygier	Rydygier, Deutsche Zeitschr. f. Chirurg., Bd. xv, 1881, p. 279.
licle ligatured and ld in lower angle of dominal wound by ns (no serre-nœud)	Death 13th day; retraction of pedicle 10th day	Chénieux	Chénieux, Archiv. de Tocologie, 1880, p. 439.

No.	Age.	Children; catamenia.	Symptoms.	Character of tumour.	Weigh
10	—	—	No clinical notes	Sessile fibro-myoma of left broad ligament; cyst of right ovary	—
11	32	4-para; menorrhagia	Swelling in left fornix, 5 years under observation; very small at first, rapid enlargement; dysuria	Sessile fibro-myoma of left broad ligament, partly cystic; uterus separate, moveable	23 lb
12	30	Nullipara	—	Sessile myoma, left broad ligament (a submucous uterine tumour had been enucleated previously)	"As b as pre nan uter at 5t month
13	32	Nullipara	Detected a fortnight after removal of small submucous myoma	Sessile myoma, left broad ligament; separated by a groove from the uterus	"As b as a child head
14	56	Multipara; menopause at 46	No clinical history of tumour; died of apoplexy; tumour discovered at necropsy *	Pedunculated fibro-myoma of right broad ligament, entirely distinct from ovary and tube	"As b as a fist"
15	39	4-para	Tumour noted after delivery, a year before operation	Sessile, bilobed, œdematous fibroma, involving both broad ligaments	11½ l
16	47	Nullipara	—	Almost sessile fibro-myoma, left broad ligament; right ovary, tube, and uterus free	2 lbs
17	29	Multipara	Mistaken for pregnancy	Sessile fibroma of left broad ligament; uterus and ovaries separate	4 lbs
18	35	Unipara	Tumour recognised 11 months before operation	Sessile myoma of right broad ligament; uterus free	10 o
19	47	—	Rapid recent enlargement of abdomen; frequent retention of urine	Sessile myxo-fibroma of left broad ligament; uterus separate, pushed to right	—

* Lang ('Des Tumeurs solides primitives des ligaments larges") adds six and perh was sessile. In Konrad's case (Lang's tables, No. 34) the tumour was probabl Millot-Carpentier's (ib., No. 37) was believed by the operator to be a fibro-myoma

Operation.	Result.	Operator.	Reporter and reference.
leation; also ova-omy	—	Schröder	Schröder, Berliner klin. Wochenschr., No. 8, 1881, p. 112.
leation; 4½ inches left ureter had to dissected off tu-ır	Recovery; secondary hæmorrhage; tetanus 6th day (from inflamed hypodermic puncture, or burn on right tro-chanter from hot water bottle)	Freund	Freund, Gynäk. klin., 1885, p. 289.
leation; capsule n up	?	Freund	Ibid., p. 292.
e	—	None	Freund, ibid., p. 292.
e	Tumour discovered after death	None	Billfinger, Ein Beitrag zur Kenntniss der primären desmoiden Geschwülste in der breiten Mutterbändern, Inaug. Dissert., Würzburg, 1887.
leation; supra-inal hysterectomy; re-nœud to cervix	Recovery; acute mania during convalescence, but had suffered from mania before operation	Bantock	Bantock, Brit. Gynæc. Journ., vol. iii, 1887, p. 493 (figured).
oval after ligature short broad pedicle t ovary not found)	Recovery	Meredith	Meredith, Trans. Obstet. Soc., vol. xxix, 1887, pp. 249 and 514.
leation; drainage gauze	Death 3rd day ("sepsis")	Fenger	Bayard Holmes, Journ. Amer. Med. Assoc., vol. x, 1888, p. 191.
leation; capsule n up	Recovered	Streeter	Bayard Holmes, loc. cit., and Amer. Journ. Obstet., vol. xxi, p. 211.
leation; ovary re-ved with upper t of capsule; va-al drainage only	Death 10th day; purulent peritonitis	Martin (Berlin)	Langner, Zeitschr. f. Geburtsh. u. Gynäk., Bd. xiv, 1888, p. 275.

cases where the tumour was discovered after death. In all these cases the tumour peritoneal lipoma; in Le Dentu's (ib., No. 32) a papilloma of the broad ligament. vary.

No.	Age.	Children; catamenia.	Symptoms.	Character of tumour.	Weigh
20	48	2-para; regular, scanty	Abdominal swelling 7 years; latterly very rapid	Sessile fibroma, right broad ligament; smaller pedunculated tumour and several small solid tumours in both broad ligaments; uterus quite separate	15 lb 6 oz. 13½ pints fluid
21	—	—	—	Sessile tumour, like a soft œdematous myoma of uterus	11 lb
22	—	—	—	As in No. 21	3 lbs
23	55	Menopause 7 years	Noticed swelling 3 years; ultimately it grew rapidly	Pedunculated œdematous fibro-myoma, left broad ligament	2 lbs
24	66	—	Pelvis never explored in patient's lifetime; for a few years anasarca; symptoms of arterial sclerosis; no albuminuria	Sessile spherical fibro-myoma of left broad ligament, blocking pelvis and obstructing opposite (right) ureter	—
25	42	Nullipara	No clinical history	Sessile lobulated fibro-myoma, left broad ligament	22 lb
26	33	—	—	Pedunculated lobulated fibroma, right broad ligament, undergoing sarcomatous degeneration; quite distinct from ovary and uterus	"Vo minor
27	31	Nullipara	Abdominal pains 3 years; swelling 1 year	Pedunculated tumour of right broad ligament	5½ lb
28	23	Nullipara; regular, scanty, painful	Hysterical fits, vomiting; paralysis 2 years; hypogastric tumour, very sensitive to touch, noted about same time	Pedunculated fibro-myoma of right broad ligament; pedicle thin, broad, and independent of ovary and tube. Left ovary cystic	9 oz

Operation.	Result.	Operator.	Reporter and reference.
cleation ; severe morrhage	Death in 20 hours	Tédenat	Pozzi, Traité de Gynéc., ed. 1, p. 795, foot-note (in all later editions).
—	—	Lawson Tait	Tait, "The Pathological Importance of the Broad Ligaments," Edin. Med. Journ., vol. xxxv, 1890, pp. 1 and 97.
—	—	„	Ibid.
cleation ; stump of sule secured by re-nœud	—	„	Ibid. (N.B.—Mr. Tait states in his Diseases of Women and Abdominal Surgery, vol. i, 1889, p. 221, that he has had 4 cases of this kind [no details].)
operation	Died of uræmia, hydronephrosis, and atrophic interstitial nephritis of right kidney ; left kidney normal	None	Gouget, Bulletins de la Soc. Anat. de Paris, 1892, p. 222.
cleation ; tissue beeen tumour and rus served as a dicle ; uterus not noved ; capsule ined with gauze	Recovered	Rouffart	Rouffart, Bulletin de la Soc. Belge de Gynéc. et d'Obstét., vol. iii, 1892, p. 119.
emoved by laparony;" evidently ligare and division of dicle	—	Breisky	Gross, "Contributions à l'Histoire des Tumeurs solides, &c.," Congrès Français de Chirur., 6e Session, 1892, p. 249.
noval by ligature d division of pedicle; ht tube and ovary t behind	Recovered	Gross (Nancy)	Gross, loc. cit., No. 26, p. 244 ; and Lang, Des Tumeurs solides primitives des ligaments larges, p. 86.
noval by ligature d division of pedi- ; left ovary reved	Recovered	Demons (Bordeaux)	Binaud, Bulletins et Mémoires de la Soc. de Gynéc., &c., de Bordeaux, 1893.

No.	Age.	Children; catamenia.	Symptoms.	Character of tumour.	Weig
29	32	Nullipara; married 13 years; regular	Lumbar pains extending to right thigh 1 year; tumour as big as an orange in right fornix; uterus pushed to left; exploratory operation 5 months before removal	Sessile fibroma of right broad ligament quite separate from uterus. (N.B.—Its upper limits were too low to allow of enucleation after usual manner)	—
30	51	Menopause 3 years	Solid tumour and ascites 6 months	Eight pints of ascitic fluid	—
31	49	Nullipara; menorrhagia 3 years	Abdominal swelling over 1 year; rapid development	Sessile fibro-myoma; cystic cavities full of blood; uterus myomatous	17 l 10 an mu flu
32	About 28	Nullipara; married 2 years	Colicky pains, followed by rapid growth of tumour	Sessile fibro-myoma, chiefly cystic, undergoing sarcomatous degeneration (possibly deciduoma in a tubal sac.—Pilliet)	—
33	38	—	—	Large sessile fibroma of right broad ligament; right ovary cystic; adherent intestine	—
34	47	Catamenia more abundant after appearance of tumour	2 years abdominal enlargement; dysuria; pain on defæcation	Sessile fibro-myoma, irregular, lobulated; descended into pelvis; uterus behind tumour	15 l 6 c
35	51	Menopause 3 years	8 years abdominal enlargement; 5 years swelling, size of cricket ball, right iliac fossa; two sudden attacks of severe abdominal pain	Pedunculated fibro-myoma (with twisted pedicle) of right broad ligament, unconnected with ovarian ligament, ovary, or uterus; intestinal and omental adhesions	7 l 5 c
36	35	—	Swelling of 2 years' growth, recently rapid; felt like a thick-walled cyst	Sessile, soft, lobulated fibroid of left broad ligament; cystic left ovary	13 l
37	70	Multipara	No history of tumour; died of cerebral disease	Well-pedunculated, deeply-lobed myosarcoma of left broad ligament, partly calcified; quite distinct from left ovary and ovarian ligament	5½ l

Operation.	Result.	Operator.	Reporter and reference.
cleation (perito- um on right of and ind bladder turned , then tumour was wn out from under itoneum "with the eatest facility")	Recovered	A. Pollosson (Lyons)	Pollosson, Lyon médical, vol. lxxiii, 1893, p. 366.
—	Recovered	Handfield-Jones	Handfield-Jones, Trans. Obst. Soc., vol. xxxv, 1893, p. 239.
cleation; supra- ginal hysterectomy; stic ligature; cap- e drained by iodo- rm gauze	Recovered	Monod	Jeannin, "Fibromyome kystique du Ligament large," Bulletin de la Soc. Anat. de Paris, 1894, p. 351.
cleation; capsule ined by iodoform uze after partial sure of its edges by ure	Recovered	Thiéry	Pilliet et Thiéry, ibid., p. 682.
noved with uterus d appendages (retro- itoneal hysterec- ny)	? Report published a day or two after operation	Nélaton, jun.	Funck-Brentano and Robineau, ibid., p. 901.
-hysterectomy and noval of tumour; ginal and abdo- nal drainage of cap- e; bladder badly unded, sutured	Recovered; calculus formed in bladder; successful lithotrity	Vautrin (Nancy)	Vautrin, "De l'Extirpation des Fibromes des Ligaments larges," Congrès Français de Chirurgie, 9me Session, 1895, p. 894.
noval (with ovary) ligature and divi- n of pedicle	Recovered	Cullingworth	Cullingworth, Trans. Obst. Soc., vol. xxxvii, 1895, p. 222.
riotomy, then enu- ation of tumour; en removal of upper rt of uterus (retro- itoneal)	Recovered	Harrison Cripps	Harrison Cripps, Ovariotomy and Abdominal Surgery, p. 491.
ne	Tumour not discovered till after death; believed by reporter to be a supernumerary ovary (see text under "Definition," footnote, p. 198)	None	Schultz-Schultzenstein, "Intraligamentäres Myosarcom bei gleichzeitigem Vorhandensein zweier Ovarien," Archiv f. Gyn. u. Geburts., vol. liv, 1897, p. 412.

No.	Age.	Children; catamenia.	Symptoms.	Character of tumour.	Weig
38	32	1 child at 19; 1 abortion at 22; catamenia regular; dysmenorrhœa and menorrhagia 6 months	—	Sessile fibroma of left broad ligament impacted in pelvis; uterus pushed to right backwards and downwards; bladder drawn up halfway to umbilicus	7 lb 11 o
39	28	2-para; regular; recently dysmenorrhœa; never menorrhagia	5½ years swelling, first seen in left iliac fossa; 2 years tumour impacted in pelvis, pushed up; then rapid growth; renal symptoms	Sessile fibroma of left broad ligament, pushing up whole of pelvic peritoneum; uterus and ovaries high up in front of its capsule	44 lb 8 o

[Since these tables were prepared I have found the report of a fortieth case. on right broad ligament, weighing nearly 21 lbs.; uterus pushed to right (Brussels (Jacobs, 'Annales de l'Institut de St. Anne,' No. 1, 1898, p. 11).]

Operation.	Result.	Operator.	Reporter and reference.
nucleation and pan-ysterectomy (as in No. 34 by same ope-ator); vaginal drain-ge	Recovered	Vautrin (Nancy)	Vautrin, private communi-cation, Oct., 1898.
nucleation and re-noval of uterus and ppendages by supra-aginal hysterectomy	Recovered	Doran	Present communication.

nullipara, catamenia regular; enlargement of abdomen over ten months; fibroma ucleation; pan-hysterectomy; vaginal drainage; recovery. Operator: Jacobs of

Having placed these tables before the Society, I will now proceed to their analysis.

Analysis of the Tables.

Definition.—I include in these tables all cases noted as fibroma, myoma, or fibro-myoma of the broad ligament, the type clinically and surgically termed "fibroid" when uterine. I also admit fibromas becoming sarcomatous or cystic. But purely cystic tumours and primary sarcoma (as in a case of Péan's) are excluded.

All reported as "sessile" are probably genuine. I suspect that many other such cases have been taken for uterine fibroids invading the broad ligament. When No. 16 was exhibited, I thought that it might be of ovarian origin, but ovarian fibroids are always pedunculated, whilst this was absolutely invested by the broad ligament, and lay deep down, very unlike an ovarian tumour invading the mesosalpinx. The ovary was never found, it is true, but was probably flattened out behind the capsule.

Of the cases reported as "pedunculated," some may be spurious. A fibroma of the ovary, strongly adherent to the broad ligament, might be taken for a primary tumour of the latter.* Fibroma of the ovarian ligament must be distinguished from fibroid of the broad ligament; this has not always been done. I have excluded my own case, where the tumour weighed 16½ lbs., though it has already been included by Gross, Vautrin, and Lang of Nancy. Cases of fibroma of the round ligament, on which Sänger, Duplay, and Guinard have written,† may have erroneously been placed under the present category.

* In Schultz-Schultzenstein's drawing (Case 37), the pedicle of the tumour is represented as anterior to the Fallopian tube. Hence his theory that it arose in a supernumerary ovary seems doubtful.

† See Guinard's important work on "Tumeurs extra-abdominales du Ligament rond," now appearing in the 'Revue de Chirurgie,' January, February, 1899.

Some authorities may have, on the other hand, been too particular. Terrillon's case ('Bulletins et Mémoires de la Société de Chirurgie de Paris,' vol. xvi, 1890, p. 35) was ruled "uterine" after a discussion, but the evidence is not convincing. Lebec's case (in Lang's tables) was held by Lucas Championnière to be independent of the broad ligament. Fordyce Barker's "large pediculated cystic myoma of the uterus simulating a fibro-cystic tumour of the broad ligament" ('Amer. Journ. Obstet.,' vol. xiii, 1880, p. 135) was also reckoned as uterine *because* "it was found by the microscope that the tumour was composed chiefly of smooth *muscular fibres,* and *therefore undoubtedly* was a cystic myoma of the *uterus* which had gradually become more and more pedunculated, *until the connection between it and the uterus had become so thin* as to *mislead* the gentlemen present at the autopsy to consider it a fibro-cyst of the broad ligament." There is no proof that the gentlemen were "misled." Fibroids of the broad ligament may be pathologically "myomas," as in Billfinger's case (No. 14), which, like other cases, shows that such tumours arise independently of the uterus, and that the pedicle doctrine, as expressed by Barker's pathologists, is an assumption.*

Age of patient.—In 5 cases (Nos. 6, 8, 10, 21, and 22) no age is given. Out of the remaining 34 the ages run thus: Nineteen years old, 1 case; twenty-two, 1; twenty-three, 1; twenty-eight, 2; twenty-nine, 1; thirty, 1; thirty-one, 1; thirty-two, 5; thirty-three, 1; thirty-five, 4; thirty-eight, 1; thirty-nine, 1; forty-two, 2; forty-seven, 4; forty-eight, 1; forty-nine, 1; fifty-one, 2; fifty-five, 1; fifty-six, 1; sixty-six, 1; and seventy, 1. Some allowance must be made for misprints, for in two tables already published the age of No. 1 is given as forty-one instead of forty-seven.

* See also Dr. Gow's remarkable "Cystic Intra-ligamentous Myoma with Double Uterus," 'Trans. Obst. Soc.,' vol. xl, p. 134. The uteri were removed with the tumour which occupied the right broad ligament. No weight is given.

No less than 6 out of the 34 patients were under thirty, or 17·6 per cent., a proportion far larger than in the case of uterine fibroids, though in fibroma of the ovary the patients are frequently young (Sir J. Williams, 18 ; Thornton, 20 ; Handfield-Jones, 21 ; Cullingworth, 19 ; Author, 24 ; Briggs, 22 : see reference at head of tables). In my own case (No. 39), the heaviest broad-ligament tumour on record, the patient was not twenty-three when it was first detected. Mikulicz's case (No. 3) could have been hardly sixteen when the tumour was first observed. Sänger's (No. 5) must have been yet younger, considering the size of the tumour. In Demons' and Binaud's (No. 28) the patient was twenty-one when the tumour was detected. Pilliet and Thiéry's (No. 32) is doubtful, but Fenger's (No. 17) is typical, and must have taken over a year to grow. In 3 of these 6 young cases the tumours were of great size and weight, in one no weight is given. This evidence is at variance with Mr. Bland Sutton's experience. "All (eleven) occurred in women over thirty-five years of age" ('Tumours, Innocent and Malignant,' p. 141).

The ages between thirty and fifty come out too irregularly to be instructive, for 5 patients were thirty-two, and 4 were forty-seven. But coming to the limits of the menopause we find no less than 6 patients over fifty, or 17·6 per cent., precisely as in patients under thirty. In the patient aged seventy (No. 37) sarcomatous degeneration seemed to be setting in. The case of the patient aged sixty-six (No. 24) is very important; it shows that women with such tumours are not safe after the menopause. The patients aged fifty (No. 23) and fifty-six (No. 14) had small tumours. No. 35, aged fifty-one, was remarkable for twisting of the pedicle, another proof that these tumours are dangerous. These elderly cases are more remarkable for the smallness than for the size of their tumours. In No. 30 (fifty-one) there was ascites.

Thus it is clear that broad-ligament fibroids are not

so restricted to the prime of life as are their homologues in the uterus.

Pregnancy and menstruation.—As in 13 of the 39 records there is no note about gestation or sterility, these tables are of no value in this respect. Twelve of the patients had never borne children, leaving 14 who had been mothers.

Still more unsatisfactory are the returns of the catamenial history. As there is no note in 18 of the 39 cases, an analysis of the remaining 21 would be worthless. In only 4 was menorrhagia noted. In No. 3, where the patient was twenty-two, the uterus was infantile, and she had never menstruated. As the tumour, it appears, was first detected when she was sixteen, it possibly played an active if not a primary share in the arrest of function.

Clinical history.—In 10 of the 39 cases there was no history published. Flooding between menstrual periods never seems to occur; the menstrual histories are, as has just been said, worthless. We may feel assured, however, under the circumstances, that bloody discharge from the vagina is not a prominent or even usual symptom of this kind of tumour. In 2 cases (Nos. 14 and 37) the patients were old subjects who had died of cerebral disease; both were multiparæ, but in neither could any history of pelvic disorder or abdominal tumour be obtained. No. 24 is of extreme importance; there was a clinical history of anasarca without albuminuria, and arterial sclerosis. The pelvis was never explored in lifetime, and the presence of a tumour was not suspected. The patient was old, and no attention was paid to the genital tract. She died of uræmia. The right kidney showed hydronephrosis and atrophic interstitial nephritis. The left kidney, on the other hand, seems to have been normal. Then a fibro-myoma of the left broad ligament was discovered, blocking the pelvis and obstructing the ureter of the right or diseased kidney. Primary renal disease is not rare at sixty-six, but in this instance it seemed to be secondary to obstruction of the ureter by

the tumour. This was markedly the case in my own patient (No. 39), who was only twenty-eight; in her, too, the renal disease was of old standing. The impaction of the tumour, relieved by Dr. Ward Cousins, is doubtless answerable for beginning the mischief, but the weight of the great tumour, after it had been pushed up, seems to have chiefly borne on the region around the left side of the brim of the pelvis, and the corresponding ureter was greatly dilated. Yet, judging from the histories, these tumours, it must be admitted, do not usually obstruct the ureter.

In the remaining 26, that is to say in two thirds of the cases, the tumour was detected by clinical investigation (this must, though not specified, have been the case in No. 8). Pregnancy was suspected in 2 (Nos. 9 and 17), but this was probably the case in more instances in this series. The time during which the tumour lay under the patient's and doctor's observation is seldom an accurate guide of its rate of growth; thus in No. 2 it was detected after delivery about fifteen months before operation, and weighed nearly eighteen pounds. It was seen to grow rapidly at last, but it was probably more than two years old. The long histories are the more reliable: in only 6 was the tumour as long as six or more years under observation (Nos. 3, 4, 8, 20, 35, and 39); in 1 of these (No. 4) no weight is given; in 1 (No. 35) it weighed but 7 lbs. 5 oz., but the pedicle had suddenly become twisted; in the remainder the range of weight was from 11 to 44½ lbs. In several, as is usual with tumours, the growth was ultimately very rapid. In No. 28 the growth was very slow.

In 2 the tumour was discovered accidentally during the treatment of some other pelvic malady; in No. 13 a small submucous myoma had been removed; in No. 28 the pelvis was explored for suspected uterine disease in a very bad case of hysteria.*

Coming to other symptoms, prolapse is noted in 2

* See note on Case 28 under head "Operation."

cases only (Nos. 2 and 5), hence it must be rare, as it is not likely to be overlooked. I have occasionally observed it in patients with ovarian cysts with or without ascites, but never felt sure of the precise relationship of the tumour to the displacement.

Besides the 2 cases where the ureter was pressed upon, retention of urine was reported in 3 (Nos. 11, 19, and 34), and was probably more frequent.

Pain is not a marked symptom, as a rule the larger tumours involve great discomfort and sickliness from malnutrition due to pressure rather than acute or dull pain. Thus Rydygier (No. 8) describes his patient as "miserable-looking," and this was the case with mine (No. 39). In No. 2 there was pain, but from peritonitis. The pain in No. 27 was probably due to the movements of the small, well-pedunculated tumour. Colicky pains were a marked feature in No. 32, but Pilliet here believed that the tumour was possibly *deciduoma malignum* developed in a recent tubal sac.

Here I may note a few cases where the entire history is incomplete, so that they could not be included in these tables. Dr. William Duncan exhibited a large myoma of the left broad ligament in 1889 before the Obstetrical Society ('Trans. Obst. Soc.,' vol. xxxi, p. 309), but no details are published.* Reclus ('Annales de Gynéc. et d'Obstét.,' vol. xxxiii, p. 219) "removed from the broad ligament an enormous fibroma; enucleation gave rise to profuse hæmorrhage, which ceased spontaneously directly the tumour was set free." Dagron and Lucas-Championnière's "voluminous pedunculated extra-uterine fibro-myoma," successfully removed, is not clearly defined; as the authors refer to a "similar" operation by Nicaise for a moveable pedunculated fibro-myoma with ascites, it would seem that by "extra-uterine" they do not imply that it was not connected with the uterus. (See 'Annales

* See also heading (with no details), "A Large Soft Broad Ligament Fibro-myoma weighing Fourteen Pounds," shown by Ewen Maclean, M.D., 'Trans. Obstet. Soc.,' vol. xl, p. 134.

de Gynéc. et d'Obstét.,' vol. xxix, p. 136.) On Terrillon's case I have already dwelt.

Character of the tumour.—In 1 amidst the 39 nothing more is recorded than that there was a solid tumour of the broad ligament and much ascitic fluid (No. 30). Fortunately in all the remaining 38 it is specified whether the growth was sessile or pedunculated. The 27 cases noted as "sessile" are in all senses the most reliable, as far as their right to be included in the present series is concerned. There remain 11 cases of "pedunculated" broad-ligament fibroids.

Of the 27 "sessile" cases it is not stated in 6 on what side the tumour had developed. In 1 (No. 15) "both broad ligaments" were involved. I assisted at the operation, which was performed at the Samaritan Hospital, and examined the tumour. It is quite possible that fibroids may have developed in both ligaments and coalesced, though it is more probable that, as in mine, the tumour originally grew in the left broad ligament. In no less than 14 it is distinctly stated that the fibroid was in the left broad ligament, leaving but 6 specifically noted as right-sided. Hence we may fairly conclude that fibroids of the broad ligament are more frequent on the left than on the right side.

The limits between a solid and a cystic "fibroid" are indefinite. Six only of the 27 "sessile" tumours are specified as "partly cystic" (Nos. 1, 4, 11, 20, 31, 32). No. 32 may be put aside as suspicious; it is the only case in the 27 suspected to be undergoing malignant degeneration. No. 31 is worth studying in the original report. There was extensive hæmorrhage inside the tumour, but whether into pre-existing cysts or into the parenchyma of the tumour we are not informed. The nature of the "cysts" is not explained in Cases 1, 4, 11.

Very indefinite is the precise pathological character of the tumour in these 27 "sessile" cases. It is for that reason that I speak of "fibroids" of the broad ligament. Six are described as "myoma," eleven as "fibro-myoma,"

one (No. 19) as "myxo-fibroma," six as "fibroma;" under these I might include my own (No. 39), but here, as in any of the remaining five, muscle-cells might have existed in a portion whence no section was taken. Of the remaining 3 cases, Nos. 21 and 22 were like a soft œdematous myoma of the uterus, and No. 36 was simply ranked in a series of hysterectomies for "fibroid."

The 11 "pedunculated" cases resemble in character and variety the "sessile" cases; at least they were attached to the broad ligament by a pedicle.* Surgically they are much the same as "fibroids" of the ovary and ovarian ligament, with which they are so liable to be confounded, nor can our suspicions be excluded from some of the 11.

Weight and size of tumour.—In 10 of the 39 cases no weight nor even any distinct idea of the size of the tumour is given. In 4 (Nos. 12, 13, 14, and 26) some notion of the size is recorded. In 25 the weight is stated in figures. I have reduced all to English measure (1 kilogramme = 2·2 lbs. avoirdupois).

The weights may be thus tabulated:

One case over 40 lbs.: No. 39, the subject of the present paper (44 lbs. 8 oz.).

Two cases between 30 and 40 lbs.: No. 7, 39 lbs. 8 oz.; No. 8, 30 lbs. 8 oz.

Two cases between 20 and 30 lbs.: No. 11, 23 lbs.; No. 25, 22 lbs.

Ten cases between 10 and 20 lbs.: No. 5, 18 lbs. 11 oz.; No. 31, 17 lbs. 10 oz.; No. 2, 17 lbs. 10 oz.; No. 20, 15 lbs. 6 oz.;† No. 34, 15 lbs. 6 oz.;‡ No. 36, 13 lbs.; No. 9, 12 lbs.; No 15, 11½ lbs.; No. 3, 11 lbs.; No. 21, 11 lbs.

* Possibly some of these cases were really sessile, the reporter meaning that he succeeded in making a pedicle out of the tissues connecting the tumour with the uterus.

† With over thirteen pints of fluid.

‡ Dr. Ewen Maclean's tumour ('Trans. Obstet. Soc.,' vol. xl, p. 134, no notes) weighed fourteen pounds.

Eight cases between 1 lb. and 10 lbs.: No. 38, 7 lbs. 11 oz.; No. 35, 7 lbs. 5 oz.; No. 37, 5½ lbs.; No. 27, 5½ lbs.; No. 17, 4 lbs.; No. 22, 3 lbs.; No. 16, 2 lbs.; No. 23, 2 lbs.

Two cases under 1 lb.: No. 18, 10 oz.; No. 28, 9 oz.

Let it be noted that all the tumours over 20 lbs. were sessile, embedded in the folds of the broad ligaments.*

Of the tumours between 10 and 20 lbs., 6 (Nos. 15, 20, 21, 31, 34, and 36) were sessile, leaving 4 (Nos. 2, 3, 5, and 9) pedunculated. As in my own case of fibroma of the ovarian ligament the tumour weighed over 16 lbs., I on that account alone believe that some of these pedunculated tumours ought strictly to be included under that class, and excluded from the category now under consideration.

Of the tumours between 1 lb. and 10 lbs., 4 were sessile (Nos. 16, 17, 22, and 38) and 4 pedunculated (Nos. 23, 27, 35, and 37).

Of the class under 1 lb., 1 was pedunculated (No. 28) and 1 (No. 18) sessile.

The sessile fibroids seem to be allowed to grow biggest; they are naturally taken for uterine fibroids, and it is certain that they are not necessarily painful. In my own case, the largest, the patient declares that she felt no pain, but suffered severely from its enormous bulk.

On the other hand, the pedunculated tumours were often taken for ovarian tumours or for uterine "fibroids" readily removable. Again, they doubtless may cause pain. In No. 35 (Dr. Cullingworth's case) there was twisting of the pedicle with intestinal and omental adhesions.

Operation.—In five cases (1, 13, 14, 24, 37) no operation was performed. No. 14 is of pathological interest as showing that the tumour, though only "as big as a fist," was completely separate from the uterus. No. 28,

* Since the above was written my attention has been turned to Jacobs' case, where the tumour weighed twenty-one pounds and was sessile. The patient recovered.

the smallest, is of clinical interest, for it was closely watched for two years, the patient being a troublesome, hysterical girl, always seeking for treatment. The neurotic symptoms reappeared after convalescence from the perfectly justifiable operation. In two years the tumour had only grown to a weight of nine ounces.

Nine cases where the tumour was pedunculated underwent operation. In 1 (No. 9) the pedicle was held in the lower angle of the wound by pins, and this case ended fatally; but this occurred in 1880. In 7 the pedicle was treated as in ovariotomy; 6 are reported as "recovered" (Nos. 2, 3, 5, 27, 28, and 35), in 1 (No. 26) the result is not stated.

In 1 (No. 23) the root of the capsule was secured by the serre-nœud, after enucleation, and the patient recovered.

Thus removal of a pedunculated fibroid of the broad ligament by ligature of the pedicle is a distinctly successful operation. So it is with removal of a large fibroid of the ovarian ligament.

Operation on a sessile fibroid is a much more serious matter, yet recently results have been good. In 2 (Nos. 21 and 22) enucleation was presumably done and all recovered, but there is no distinct note of that operative procedure, and it is not stated whether the uterus was left or removed. No. 30 (perhaps pedunculated) recovered.

Pan-hysterectomy after enucleation was done successfully in both Vautrin's cases (Nos. 34 and 38). The damage to the bladder in No. 34 occurred during enucleation.

In 2 (Nos. 16 and 25) a pedicle was made of the tissues connecting the tumour with the uterus. Both recovered. (Enucleation was done in No. 25.)

In 1 (No. 29) the tumour filled the pelvis, its uppermost part only just reaching the pelvic brim. Pollosson dissected up the peritoneum behind and to the right of the bladder, and succeeded in drawing out the tumour from under the serous membrane with ease. The patient recovered—a brilliant operation, no doubt, and worth

attempting when the tumour is similarly placed. He terms it "para-peritoneal enucleation."

In 2 (Nos. 33 and 36) retro-peritoneal hysterectomy was performed after enucleation. No. 33 was reported a few days after the operation, so the result is unknown. No. 36 recovered.

In 3 (Nos. 15, 31, and 39) extra-peritoneal supra-vaginal hysterectomy was performed. In No. 31 (tumour 17 lbs. 10 oz.) the elastic ligature was applied to the uterine stump. In No. 15 (tumour 11 lbs., enucleation very difficult, acute mania during recovery) and in No. 39 (tumour 44 lbs. 8 oz.) the serre-nœud was used to secure the uterine stump. Let it be noted that all three of these grave cases recovered. I have given my reasons why in No. 39 I applied, or rather did not take off, the serre-nœud.

In 12 (4, 6, 7, 8, 10, 11, 12, 17, 18, 19, 20, 32) "enucleation" was performed presumably, but not, evidently, without hysterectomy. No less than six died, and in 1 (No. 10) no result is given. But all the fatal cases occurred before 1890. No. 4 (1894) was incomplete; No. 6 died of hæmorrhage—the rectum had been torn and sewn up; No 7 (which should be studied from the original report, as the earlier tables contain errors about age, &c.) was exceptionally difficult, for the left kidney lay displaced in the pelvis and had to be removed with the tumour, as hæmorrhage was set up during attempts at separation; No. 17 died "from sepsis on the third day;" No. 19 perished from purulent peritonitis; No. 20 from hæmorrhage.

Thus the operation is certainly perilous, but it is not fair to rank the older with the newer cases. As for weight, my own, No. 39, recovered. No. 7, the next in weight, died. No. 8 recovered, and Nos. 11 and 25 were saved, No. 11 recovering from tetanus. In all these cases the weight exceeded 20 lbs.

Conclusions.

From the above tables it may be concluded that when a fibroid tumour of the broad ligament is detected, its removal by operation is desirable. It is not usually painful, but nearly always causes much discomfort and tends to press on the ureters. In a young subject the propriety of operative interference seems indisputable.

The diagnosis, it must be admitted, is not always easy. Ovarian fibroma is relatively frequent in youth, generally quite moveable, and often associated with ascites. Uterine fibroids are rare in youth * and not likely to burrow in a young subject. Fibroma or myoma of the broad ligament is relatively frequent in youth, quite fixed and seldom complicated with ascites. In any case the diagnosis from a uterine fibroid burrowing in the broad ligament is not difficult if the uterine cavity can be measured by a sound and proves to be short. This step, however, is not always practicable—such was my experience. From malignant tumour diagnosis is usually easy.

The extirpation of a fibroid of the broad ligament is in some respects not so dangerous as the removal of a burrowing uterine fibroid. The cervix is seldom much enlarged, and after enucleation is separated more or less completely from the peritoneal cavity by the chasm left in the capsule, which can be kept dry with gauze-packing. On the other hand enucleation is often difficult.

Let not a drop of blood be lost if possible, that is the first principle in enucleation. The rapid shelling out of one of these huge tumours is brilliant operating but faulty surgery. Blood streams from the mass for several minutes. Robust patients with burrowing fibroids of uterine origin tolerate the loss, but women with large broad ligament fibroids are nearly always sickly and anæmic, although they rarely, if ever, suffer from flood-

* See Herbert Spencer, "Uterine Fibroids in Young Women," 'Trans. Obstet. Soc.,' vol. xl, 1898, p. 228.

ings. They bear loss of blood badly. So prevention, the ligature, is better than cure, transfusion.

For these reasons I believe that the method which I adopted is safest. Let the ovarian, uterine, and round ligament vessels be secured by ligatures distally as well as proximally. Then the capsule should be divided between the ligatures, horizontally for two or three inches, the ligatures being afterwards drawn tight. When all the vessels have been thus secured, the incisions in the capsule must be united, so that the lower part of the tumour can be enucleated. I consider now that I departed from this rule, leaving too much to chance, when I divided part of the capsule before tying the left ovarian vessels. Fortunately no bleeding occurred, and at least I secured the vessels before I reached them. Pressure forceps on the distal side are untrustworthy.

Pollosson's "para-peritoneal operation" is no doubt good when the top of the tumour lies low, but in such a case the growth can usually be extracted with a volsella through an incision made on its surface.

What should be done with the uterus? When the broad ligament tumour is small and limited to its own side, it may often be removed with its ovary and tube only, after a little enucleation. The hypertrophied connective tissue uniting it to the uterus may serve as a pedicle. When the tumour is large the removal of both appendages and the amputation of the uterus becomes almost imperative for evident reasons.

Vautrin strongly urges us to perform panhysterectomy. But this operation takes up much time after a tedious enucleation, when the cervix is abnormally situated, and the risk to the ureters is then great, as they are often much displaced. In enucleation itself, these ducts are, it appears, seldom damaged, but in the separation of an abnormal cervix they are less likely to remain unscathed. Still, there are cases where M. Vautrin's counsel might advantageously be followed.

Altogether, retro-peritoneal hysterectomy is the best

method if practicable. My case was exceptional, owing to the cervix being stretched like a band. A serre-nœud was at hand, so I used it to hold fast the cervix and uterine arteries until after enucleation. When that process was completed it seemed best to leave the serre-nœud where it was, as explained on p. 178.

When the tumour is pedunculated, the operation resembles an ovariotomy. A thick stump requires caution in ligature. Sometimes it is safest to ligature the broad ligament internal to the pedicle, taking away the ovary and tube with the tumour.

Dr. Ewen Maclean referred to a specimen of a broad ligament myoma which he had removed and exhibited to the Society. The patient was forty-five years of age, and the menstrual function had been in all respects normal. Since the birth of her only child, some seven years previously, she had been conscious of a pelvic swelling and "bearing down." During the last two years the swelling had much increased in size, and symptoms of pressure were becoming distressing. A broad ligament myoma weighing fourteen pounds was enucleated from the left side, and its peduncular attachment to the left upper side of the uterus ligatured and divided. The rapid retraction of this pedicle and the consequent and somewhat severe hæmorrhage which occurred necessitated the removal of the uterus and its appendages. The uterus itself was considerably enlarged, and contained several fibroid nodules. The tumour bed was covered in by the suturing of anterior and posterior peritoneal layers, and a small drainage-tube kept in for twenty-four hours. The patient made a very good recovery.

Dr. Peter Horrocks asked what were the microscopical differences between a fibroma and a sarcoma? He asked this because at a former meeting he had shown a fibroma which was said by Mr. Bland Sutton to be a typical sarcoma, but he had not elicited what constituted the difference, only it was said that if the patient got a recurrence it would prove it was a sarcoma, and if she did not that it was a fibroma. But, of course, the subsequent clinical history was one thing and the microscopical characteristics another. Mr. Shattock pronounced this tumour to be a fibroma, and he would like to know how he distinguished it from a sarcoma. Certainly the rapid growth was very unlike that of a simple fibroma, and suggested clinically, at least, some malignancy.

The President, in reply, noted three more cases of fibroid

of the broad ligament, making up forty-two. One was under Jacobs of Brussels, the others were under his own care. The first was a fibro-cyst, weighing 8 lbs. 8 oz., in a woman aged forty. Four years ago the cyst was tapped and drained in a British colony. The drainage track suppurated and occasionally bled to a dangerous extent. He removed the whole tumour by retro-peritoneal hysterectomy, excising the skin and the fistula with the cyst; the lower part was quite solid. In spite of all precautions the patient died in fifty-three hours; the kidneys were much diseased. The second was a very solid fibro-myoma weighing 9 lbs. 13 oz., in a woman aged forty-four. The President removed it by retro-peritoneal hysterectomy, sewing the lower part of the capsule to the peritoneum over the uterine stump. There were parametritic symptoms in the second week, but the patient was now convalescent. He did not think that the 44 lbs. tumour was clinically or pathologically malignant; Mr. Shattock reported its tissue as fibrous without any plain muscle-cells. Dr. Ewen Maclean's case should be published in full. In reply to Mr. Butler-Smythe, the President said that he would always remove such tumours by retro-peritoneal hysterectomy, unless, as in the above case, there was a reason in favour of another method. The President, turning to Dr. Hubert Roberts's subject, referred to a patient of that physician's on whom he had successfully operated. She was twenty-nine, and suffered much from a uterine fibroid hardly over a pound in weight; there was a little menorrhagia. After retro-peritoneal hysterectomy he found a suppurating fibro-myoma in the posterior uterine wall, hence the severe constitutional disturbance. But a submucous growth accounted for the menorrhagia.

[See also discussion on Mr. Roberts's paper (page 217).]

NOTES OF A CASE OF A LARGE RETRO-PERITONEAL FIBROID UNDERGOING SUPPURATION.

By C. Hubert Roberts.

I thought in connection with Mr. Alban Doran's paper, it might be interesting to report the notes of a case of a similar tumour, viz. a fibroid not apparently of uterine origin growing in the broad ligament. It is also noteworthy, as practically the larger portion of the tumour had been converted into an abscess cavity, not a very common condition.

It is only lately that attention has been drawn to tumours, apparently fibroids, which appear to start in the retro-peritoneal cellular tissue, and when growing in the broad ligaments appears on first sight to be of uterine origin, but as this case and Mr. Alban Doran's paper show, this is not always the case.

In the case I quote, the tumour, though very large, weighing 38 lbs., grew entirely in the broad ligament, and had only very slight adhesion to the uterus itself, which was only slightly enlarged though markedly displaced by the tumour.

Notes of the case.—Mrs. S—, aged 50, married; never pregnant. Long history, over thirteen years, of an abdominal tumour. Formerly under the late Dr. Matthews Duncan. Eight years ago underwent electrolytic treatment. Mr. Thornton saw the case three years ago with Dr. Percy Boulton. She was fairly well and had practically few symptoms up to twelve months ago, when she began to fail, and for the last eight months had lost flesh rapidly, and the tumour had grown.

For the last month she had become very much worse, and febrile symptoms had ensued at night. She had been under the care of Dr. Percy Boulton for the last four years.

The catamenia, formerly rather profuse, ceased completely eight months ago. The bowels have been fairly regular. The urine contained no albumen, and she passes a fair amount. The only definite pressure symptom is œdema of both legs, especially the left, but ten years ago a vein had become thrombosed on this side. There has been very rapid loss of flesh for eight months. The temperature is 100° to 100·8° every night. The pulse 90 to 100. The tumour has increased markedly, and is now of very great size and is tender. There is an indefinite history of superficial peritonitis. The patient has rapidly lost ground, and looks ill and emaciated. The abdomen now measures 48 inches.

The abdominal examination revealed a very large tumour irregularly distending it and reaching up to the ensiform cartilage. It was irregularly lobed, and appeared to be partly solid and partly cystic; the lower portion of the mass was very hard, and extended into the pelvis, mostly on the left side. The upper portion of the mass reached up to the ribs on each side; this appeared to be cystic. A rounded mass in front of the whole tumour, just above the symphysis, was identified as the fundus uteri. By the vagina the cervix was quite out of reach; the sound could not be passed nor any part of the abdominal mass distinctly made out.

Mr. Meredith saw the case with Dr. Boulton, and operation was decided upon and performed on November 5th. I assisted Mr. Meredith to remove the tumour, and he kindly allows me to publish the notes of the case now reported. A very large incision was necessary, extending to within three inches of the navel, and this had to be subsequently increased. The tumour was covered by a confused mass of parietal adhesions, below which was a covering of closely-adherent thinned-out omentum. These were clamped and raised off the tumour. The upper portion of the mass was now found to be evidently cystic, and was tapped and found to contain thin, greyish-looking, odourless pus. Thirteen pints were thus evacuated,

and the tumour could now be drawn forward out of the abdominal cavity. It was then seen that the whole tumour was covered by a thickened layer of broad ligament, with very large vessels running over it. Its removal involved complete enucleation, as the whole growth was subperitoneal; portions of the capsule were clamped as the operation went on, and the base of the tumour extended very deeply into the subperitoneal tissue on the left side of the pelvis. This, which was firm and tough, was clamped and divided like a pedicle. The tumour was found to be closely connected but not continuous with the back of the uterus, which was bulky but not deformed; its separation would have prolonged and needlessly complicated the operation, and an elastic ligature was therefore passed round the cervix, which was cut through above it, removing the body of the uterus with the tumour. The damaged omentum was now tied and secured, as well as the large vessels in the broad ligament capsule and numerous bands of parietal adhesions. The uterine stump was then secured by the serre-nœud, the pins passed, and the surface pared to some extent. The uterine stump was adjusted in the usual way at the lower part of the incision. The edges of the sac immediately behind the stump were laced together, and as much as possible of the cavity from which the tumour had been enucleated was closed by sutures. The abdomen was freely flushed with warm boiled water. Both ovaries were left. The abdomen was then closed in the usual way. She has made, so far, an excellent recovery.

Pathology, &c.—The large tumour was found to resemble a uterine fibroid. Its weight, including the pus evacuated, was nearly 38 lbs. It consisted of two main portions, a lower and superficial portion, which was quite solid, and on section presented the ordinary appearance of a fibromyoma; behind this and part of the same tumour was the large cystic portion from which the pus was evacuated.

On opening this large sac it was found to be in a state of great degeneration; the cavity was loculated, and intersected everywhere by large bands of fibroid tissue, and in parts distinct calcareous changes were evident.

The calcareous degeneration changes affected mostly the intersecting bands between the loculi. In places the sac wall was very thin and almost on the point of perforation, which would probably have led to a fatal result.

The denser portions of the lower and harder mass were not so degenerate, though in parts the bundles of fibrous tissue were separated by areas of softer, breaking-down material.

The uterus itself was about three inches and a half long, and was not affected with any fibroid changes. It was somewhat enlarged and adherent to the front of the tumour, which had lifted it out of the pelvis, so that it could be felt above the symphysis. It could be detached without much difficulty from the tumour, and no real adhesion either of fibrous or uterine tissue could be discovered, nor did the uterine vessels pass to the tumour, which was supplied with blood entirely from the broad ligament.

On laying open the uterine cavity after removal, it did not communicate with that of the tumour, nor was it particularly enlarged, so that the tumour did not in any way appear to originate from the uterus, though it was in close apposition. Such a case is of interest, since it points to the probability of tumours of a fibroid nature arising from other structures than the uterus itself, and that fibroids may originate in the retro-peritoneal cellular tissue of the broad ligament; in fact, such retro- and extra-peritoneal cellular tissue is contained in the mesentery, meso-colon and various omenta; and as large fibromata growing in these regions are already known, it does not seem at all improbable that tumours of the broad ligament may arise in this way. Retro-peritoneal lipomata are similar in their origin.

I regret that the tumour has not been preserved, but

as the operation took place in a private house it was unfortunately destroyed.

That so large a tumour should have existed for over thirteen years and caused few symptoms up to the few months before operation is noteworthy, and also that the acute degenerative change should end in suppuration, as I do not think suppuration is a common ending of uterine fibroids. Another point in this case is the very great size of the tumour. I believe that many of the larger tumours removed by operation are of this nature, and not true uterine fibroids, especially in very old women.

Mr. Butler-Smythe asked Dr. Hubert Roberts if he could say what the position of the uterus was in the case reported by him? He asked the question because, to his mind, this was an important point both as regards diagnosis and treatment. In all the cases of intra-ligamentous tumours that had come under his observation the uterus was pushed or drawn up high in front of the tumour, and in many instances that organ could be felt through the abdominal walls. Such a position of the uterus would necessitate a much higher incision than that usually employed in cœliotomy. In one case, operated on by the President, the fundus uteri was found to be on a level with the umbilicus, and narrowly escaped injury. He thought the intra-peritoneal treatment was very suitable for such cases as those mentioned by Mr. Doran and Dr. Roberts, and he wished to ask why the clamp was used in the President's operation, as he had noticed that in a similar though smaller case the intra-peritoneal method had been employed by the same operator. He congratulated the President on the success of his remarkable operation.

Dr. Roberts replied that in the case read the uterus was quite small, and displaced inwards and upwards close behind the symphysis; the large incision had to be made in order to get the tumour out. Dr. Roberts regretted that none of the Fellows could throw further light on the suppurative processes in degenerating fibroids.

The President suggested that the collective experience of the Fellows of the Society relative to tubercle of the female organs and peritoneum might form the basis of a discussion. Three years ago two evenings were set aside for a special discus-cussion on deciduoma malignum. Dr. Eden and Professor

Kanthack then put forward the theory that the disease in question was simply sarcoma of the uterus aggravated by pregnancy. This theory was for a time ignored, but in the instalment of Veit's 'Handbuch' just issued, Veit himself concluded his monograph on Deciduoma Malignum by stating his belief in Eden's theory.* Thus this discussion at least bore fruit. A great deal of light was needed in the direction of tubercle, from the pathology of tubercular salpingitis to the medical or operative treatment of tubercular peritonitis.

* 'Handbuch der Gynäkologie,' Bd. iii, 2te Hälfte, erste Abtheilung, p. 582, "Besonders interessant ist das Verhalten der englischen Gynäkologen." Here follows a notice of Eden's observations, 'Trans. Obstet. Soc.,' vol. xxxviii, p. 149. Veit concludes (loc. cit., p. 596), "Ich nehme eine präexistente Erkrankung der Mutter an und deute diesselbe als Sarkom."

JUNE 7TH, 1899.

ALBAN DORAN, F.R.C.S., President, in the Chair.

Present—34 Fellows and 2 Visitors.

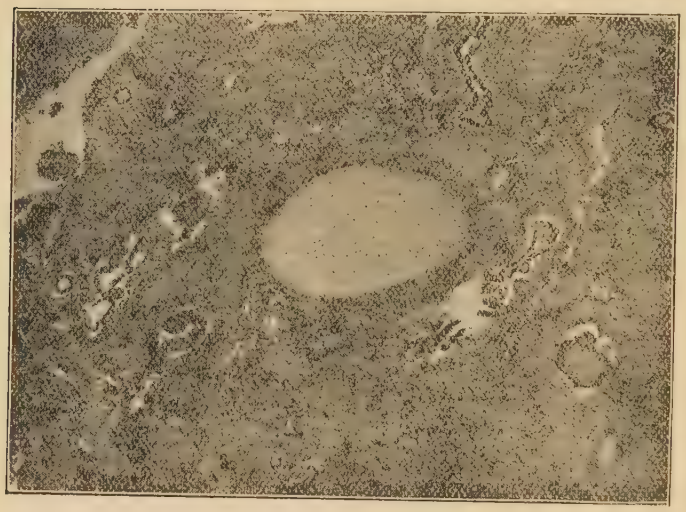
Books were presented by Professor Budin and the Society of the New York Hospital.

Herbert Williamson, M.A., M.B., B.C.Cantab., was admitted a Fellow.

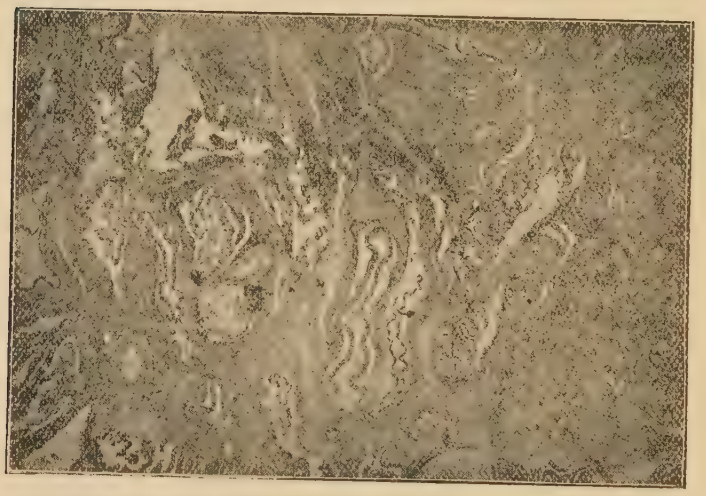
The following gentlemen were proposed for election :— Elgar Down, M.R.C.S., L.R.C.P.Lond. (Devonport) ; J. Raglan Thomas, M.D.Lond. (Exeter) ; Thomas Anderson Glover, M.D., C.M.Edin. (Doncaster) ; Edwin Hugh Grant Morris, M.B., B.C.Camb. ; George J. Maguire, M.B., B.Ch. (Richmond) ; Charles Hollingsworth Clayton, M.R.C.S., L.R.C.P. ; J. E. Paul, M.D.

Report of Committee on Dr. Arnold W. W. Lea's specimen of tumour expelled from uterus during labour at term, exhibited January 4th, 1899.

WE, the undersigned, have met this day, and after examining the specimen named above, have drawn up and signed the following report :



Group of cells of hyaline cartilage.



Glandular tissue and tubules.

The specimen is an irregularly shaped soft mass weighing 12 ounces. It is covered by a fine fibrous capsule and composed of several lobes loosely held together by connective tissue. On section numerous small cysts are seen, of varying size up to that of a hazel-nut. The cysts are scattered through the mass, but are most numerous near the surface of the lobes.

Microscopic sections are examined from various parts of the mass. The capsule is composed of firm fibrous tissue, with numerous large capillaries in its deeper layer, and from this fibrous septa pass downwards for a short distance into the tissue. The cysts are lined by epithelium, often two or three layers of cells, and are evidently dilated gland spaces. The greater part of the structure is made up of fibrous tissue which is fully developed in some places, but in other parts embryonic in type, containing numerous round-cells and large capillaries. Masses of embryonic glandular tissue are seen in many sections. Tissue closely resembling spleen pulp is present in some, and also tissue suggesting the structure of the Wolffian bodies. Throughout the mass short bars of hyaline cartilage are seen resembling costal cartilage in section. No bony elements can be detected. There is no trace of placental tissue or structure.

We are of opinion that the tumour is an acardiac fœtus, in which the arrest of development occurred at a very early period of fœtal life before the period of clear differentiation of the various organs.

T. W. Eden.
J. Bland Sutton.
Arnold W. W. Lea.

May 1*st*, 1899.

PARTIALLY MACERATED FŒTUS FROM AN EXTRA-UTERINE FŒTATION RETAINED IN THE BODY ABOUT A YEAR AFTER ITS DEATH.

Shown by Mr. Malcolm.

Mr. Malcolm showed a partially macerated fœtus from an ectopic gestation which had been retained in the body about a year. The patient from whom the specimen was removed was 30 years of age, and had a child 7 years old. There was much pain in the left ovarian region after the child was born. She did not again become pregnant till the end of 1897, and she believed that she had miscarried in January, 1898, when menstruation had ceased between two and three months. After the operation referred to below, the patient stated that the miscarriage was peculiar, because nothing came away except the after-birth and a small clot. There is no doubt that at this time a deciduous membrane was thrown off. Before the so-called miscarriage the patient was confined to bed for six weeks on account of pain in the right side. In August there was another attack of pain, but it was not so severe. The periods then became regular but very painful. The patient was admitted to the Samaritan Free Hospital in February, 1899. At that time there was a large tumour in the right side of the pelvis. It had been watched and was distinctly enlarging. It seemed fairly free, and was diagnosed as an ovarian cyst. The left ovary seemed to be enlarged also. On February 10th the abdomen was opened, and a mass was found in the right side of the pelvis, very adherent to the surrounding intestines and pelvic peritoneum. On separating the adherent parts small cavities were opened and a few drops of pus-like fluid escaped. This pus-like matter was supposed to be of dermoid origin. An irregularly-shaped mass, the size

of a small orange, was separated, and then a large cavity below it was opened, and much clear fluid was released. This was an encysted collection of peritoneal fluid, and the continued exudation of fluid was the cause of the enlargement of the swelling which led to the error in diagnosis. There can be little doubt that if the operation had not been performed suppuration would have been brought about sooner or later as the pressure increased. The left ovary and Fallopian tube were also very adherent to neighbouring parts and to each other, and they were removed.

No part of the fœtus was exposed during the operation, and it was only when the specimen was examined afterwards that the true nature of the case was discovered. The fœtus appeared to have died between the third and fourth months. Its bones were covered with flesh in parts, but portions of the ribs on one side, and the ends of the radius and ulna of each arm were exposed. The patient made a good recovery.

MACERATED BONES OF A FŒTUS FROM AN EXTRA-UTERINE GESTATION RETAINED SEVEN YEARS.

Shown by Mr. Malcolm.

Mr. Malcolm showed a mass of tissue containing fœtal remains and many loose bones from an ectopic fœtus which had been retained in the body seven years. The patient was 34 years old. She had been in Charing Cross Hospital in 1889 under the care of Dr. Watt Black, who kindly informed the writer that an extra-uterine fœtation was then diagnosed. The patient declined to submit to

operation. She left the hospital and gradually got better. After about a year she considered herself quite well, and continued so until the beginning of 1896, when she again suffered from pain in the pelvis, and the abdomen became distinctly enlarged. The pain and swelling increased, and the patient was readmitted to Charing Cross Hospital under Dr. Black's care on August 4th, 1896. At that time the periods were very irregular, and there were repeated attacks of retention of urine. An operation was urged but refused. The patient was admitted to the Samaritan Free Hospital three months later. She was then much larger, and an ovarian tumour was diagnosed. The cystic growth was so large that the extra-uterine fœtation was not separately palpable. It was quite clear that the patient had nothing to hope for unless she submitted to operation, but it was not till November 21st, 1896, that she consented, and then she agreed only because she was at last convinced that she was becoming more and more seriously ill.

When the abdomen was opened an ovarian tumour was exposed, and the bulk of it was extracted. It was then discovered that its base was deeply buried in the right broad ligament, and that the contents of the left side of the pelvis were all matted together and to the tumour by strong adhesions. In separating them the mass of tissue shown was extracted, and the loose bones fell out of it at the operation, or during its examination afterwards. It lay above the left cornu of the uterus. In several places the long bones pressed deeply into the walls of the bowel, and in separating the mass a minute opening was made in a coil of small intestine. This was carefully closed by Lembert's sutures. The enucleation of the ovarian cyst on the right side was then proceeded with. Its walls became thinner and the tissues outside it were more vascular towards the deeper parts. As the operation was already a prolonged one it was decided to treat the lower portion of the cyst by drainage, the greater part of it being cut away. After all bleeding points had been

secured the wound was closed, a drainage-tube being placed in the cyst and another in the capsule. The cavity from which the extra-uterine fœtation had been removed was plugged with iodoform gauze. The patient died on the fourth day with symptoms of obstruction of the bowel.

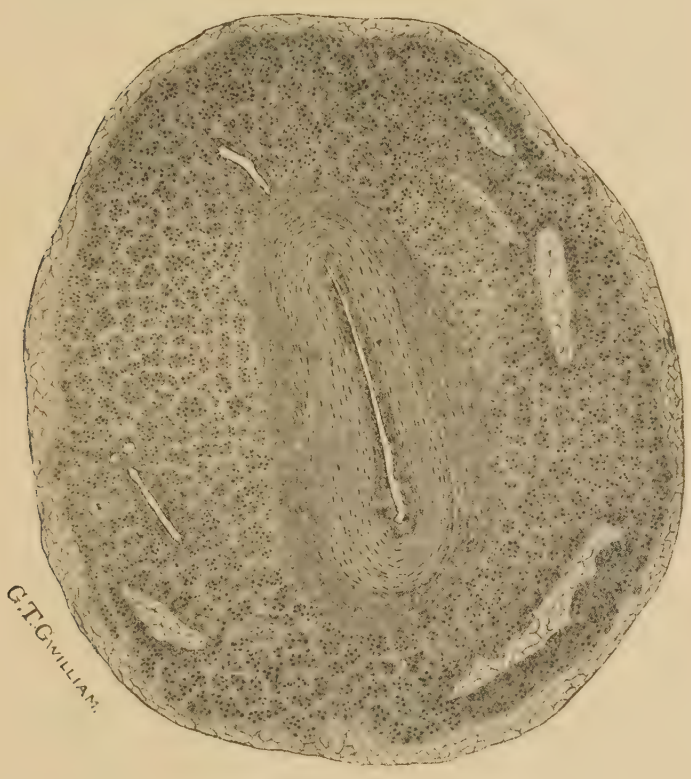
At the post-mortem examination there was no visible lymph exudation, and there were only a few drams of fluid, apparently altered blood, in the peritoneal cavity. The pelvic contents were all matted together by old adhesions, except where they had been separated during the operation. Parts of the adherent intestines were almost gangrenous, and the site of the injury to the gut was not discovered. Some vessels must have been left unsecured, for there was a considerable quantity of blood effused under the peritoneum in the pelvis. The size of the bones indicated that the fœtus had died about the third month. This case shows how extensive adhesions may exist in the abdomen, and yet the patient may feel fairly well. It is obvious that the chances of success after an operation such as that described are very much diminished when the patient obstinately refuses treatment until forced to it by the fear of immediate death. The patient would perhaps have had a better chance of recovery if the cyst had been simply drained after the greater part of it had been cut away, the adhesions being left undisturbed, but of course it was not known that enucleation would be found impracticable when it was commenced.

TUMOUR CLOSELY SIMULATING A PAPILLOMATOUS OVARIAN CYSTOMA ATTACHED TO THE FRONT OF THE BLADDER AND QUITE SEPARATE FROM BOTH OVARIES.

Shown by Mr. Malcolm.

Mr. Malcolm showed a cystic tumour which he had removed from a woman aged 40. Twenty years earlier Mr. Knowsley Thornton had removed a cystic papillomatous tumour of the right ovary. The patient had recovered and continued well till 1897, when another ovarian cystoma was diagosed. On January 20, 1898, the tumour was exposed, tapped, and extracted from the abdominal cavity, and it was then discovered that the right appendages were absent, and the left ovary and Fallopian tube were quite separate from the tumour, which was attached to the front of the bladder near the middle line, and so close to the reflection of the peritonèum from the bladder to the anterior abdominal wall. The natural hollow in front of the left broad ligament existed behind the base of the tumour. The attachment of the tumour was about one inch in diameter, and near the centre a cord-like stalk was felt. This was dissected out and traced backwards round the side of the bladder, and was tied and divided about an inch and a half from the tumour. By making traction on this cord-like process it could be traced still further backwards under the peritoneum to the base of the broad ligament, and below it towards the brim of the pelvis in a direction somewhat parallel to, but external to that of the ureter. The left kidney was examined and appeared to be healthy. The tumour was a multilocular cyst, and the papilloma exactly resembled the growths frequently found in ovarian tumours, whether it was examined by the naked eye or under the microscope. Mr. Corrie Keep had

made sections of the cord-like structure above described, and had described it as a "firm rounded cord, a quarter of an inch in diameter, composed of bundles of plain muscle-fibres arranged longitudinally and separated from one another by a stroma of fibrous tissue. Externally it is surrounded by loose areolar tissue. In the centre is a large collapsed artery, in which a few blood corpuscles can be seen adhering to the endothelial lining. The muscular coats of this vessel are much thickened, but externally they are distinctly separated



Section of cord-like stalks in centre of the attachment of the tumour to the bladder.

from the main tissue of the cord by a fibrous sheath. In addition to this large vessel there are various smaller ones permeating the main structure of the cord." A section is very well, but somewhat diagrammatically, shown in the accompanying figure. The patient made a good recovery.

The PRESIDENT believed that this papilloma undoubtedly took its rise in some relic of the Wolffian body. Von Recklinghausen had shown these relics were much more widely disseminated than was generally believed; papilloma often developed in them, and they then formed cystic tumours which burrowed into parts far from the tube, ovary, and uterus. Though very dangerous if allowed to grow, they never seemed to recur if completely extirpated.

A CASE OF MEMBRANOUS VAGINITIS IN WHICH THE *BACILLUS COLI COMMUNIS* WAS FOUND.

Shown by Dr. STEVENS.

DR. T. G. STEVENS showed a drawing illustrating the external genitals of a young married woman, whose complaint was that she had burning pain in the vulva and a vaginal discharge, commencing four days before she sought advice. On examination the mucous membrane of the vulva was intensely reddened and œdematous, and just showing on the vaginal side of the carunculæ myrtiformes was the edge of a yellowish coloured membrane. This membrane extended about halfway up the vagina, and was sharply limited below at the vaginal orifice. The membrane was about one eighth of an inch thick, not very tough, and did not leave a bleeding surface when removed. There was no membrane on the labia minora nor around the urethra, but a little tenacious pus bathed the surfaces of these parts. There were no enlarged glands in the groins to be felt. The patient had no general symptoms, and felt quite well except for the pain. She was treated with a mild purgative

medicine and an iodine lotion (3j of the tincture to one pint of water), to be used twice a day as a vaginal injection. She was much better at the end of a week, all the membrane had disappeared, only a little mucopurulent fluid remaining. Two weeks later the patient was quite cured.

At first it was thought that this was a true case of vaginal diphtheria, but the bacteriological examination of the membrane showed that not to be the case. A piece of the membrane was removed from some way up the vagina, by means of a sterilised swab, and preserved in a sterile tube. From this piece of membrane a broth culture was made; and the membrane itself spread on a slide, stained, and examined in the usual way. The membrane showed broken-down epithelial cells, leucocytes, fibrin, and many short, thick bacilli. These bacilli looked like *Bacillus coli communis*, and the fact that some involution forms were also seen, lent colour to this suspicion. The broth culture contained only a short bacillus apparently identical with those in the membrane. This culture was at once placed on gelatine, and proved to contain two varieties of the *Bacillus coli* group of organisms. No other colonies but those of *Bacillus coli communis* appeared on the plates at all. From these colonies cultures were made as follows: agar streak, litmus milk, gelatine stab, gelatine shake and broth. The agar, broth and gelatine cultures were typical of *Bacillus coli communis*, the milk clotted with the production of acid, and there was abundant gas production in the gelatine shake culture. In addition, the broth cultures kept five days gave a slight but distinct indol reaction.

From these results it would seem reasonable to suggest that the original inflammation of the vagina was really caused by the *Bacillus coli communis*. The patient was five months pregnant, and so there was increased secretion in the vagina, affording a good medium for the growth of organisms; in addition she had been under

treatment for an anal fissure, in which possibly the *Bacillus coli communis* would flourish and possibly gain some increase of virulence.

Dr. Cullingworth suggested a slight alteration in the title of the communication, so as to make it more strictly accurate from a scientific point of view. He also inquired if Dr. Stevens could suggest any explanation of the apparent difference between the mucous membrane of the vagina and that of the intestine in their susceptibility to the influence of the *Bacterium coli commune*. The difference appeared all the more remarkable when it was considered that the vaginal mucous membrane was practically destitute of glands. He hoped that the Council would have an opportunity of publishing the beautiful drawing now shown in the 'Transactions.'

Dr. Herman asked why the *Bacterium coli commune* did not cause vaginitis in cases of recto-vaginal fistula, or of bad tears in the perinæum. To say that it caused vaginitis when "exceptionally virulent" or under "peculiar conditions" was no explanation, unless the "peculiar conditions" could be specified, or the reasons for the "exceptional virulence" pointed out. A case so carefully observed and reported as that now communicated by Dr. Stevens was of much value.

Dr. Herbert Spencer inquired if there was any history of fever in this case. He had seen superficial ulceration of the vulva and vagina in patients suffering from typhoid fever; his cases had not all been examined bacteriologically; but typhoid fever would open the door to the invasion of the system by *Bacillus coli*.

Dr. Roberts suggested that possibly some of the cases of vaginitis and vulvitis of children or at least cases of purulent discharge might be due to a similar cause and not to the gonococcus. A paper had recently been read before the Society by Dr. Drummond Robinson on the subject of vulvitis in children. Dr. Roberts would like to ask Dr. Robinson if in any of his cases the *Bacillus coli* had been met with.

Dr. Drummond Robinson, in reply to Dr. Hubert Roberts's question, stated that he had not found membrane present in any of the cases of vulvitis in children that he had investigated. Bacilli were present in the discharges of many of these cases, but whether any of these were colon bacilli he was not in a position to say. He did not think that the fact alluded to by Dr. Herman, that recto-vaginal fistula was not more commonly complicated by membranous vaginitis, proved that the colon bacilli in this case were not the cause of the membrane. It was well known that micro-organisms of the same variety were capable of producing widely different pathological results under

varying circumstances. The streptococcus pyogenes, which is the principal agent in puerperal sepsis, very occasionally gives rise to a membranous puerperal vaginitis under conditions of which we are at present ignorant, and there is no reason why the same should not be the case with the colon bacillus. It is true that the *Bacillus coli* does not, as a rule, produce pathological conditions in animals, but Dr. Robinson had investigated two cases of fatal blood-poisoning by the colon bacillus after ovariotomy for suppurating cysts, and in both these cases the colon bacillus obtained in pure culture from the heart's blood were exceedingly virulent to guinea-pigs. The fact that organisms vary in their virulence and pathological results is beyond all doubt, though the exact cause of these different manifestations is still unknown.

Dr. Haultain said that it was probably he whom Dr. Routh referred to as having written on "Puerperal Infection due to the *Bacillus coli*." In the case in question this organism was found free in the blood before death, though there was no evidence of local inflammation present. He was much interested in Dr. Stevens' case of vaginitis, but was by no means surprised that the plastic exudation was found associated with this special microbe, as it would appear that individual germs assumed different *rolés* under varying surrounding conditions, and perhaps in the *Bacillus coli* we had the most common example of multifarious parts played by the same microbe, it at times being present and harmless and at others gave rise to most virulent poisoning. Personally, he had only met with false membrane in the vagina due to infection by Loeffler's bacillus and streptococci.

NAEGELE PELVIS.

Shown by J. H. Targett, F.R.C.S.

UNUSUAL THICKENING OF THE ENDOMETRIUM IN CASE OF FIBROIDS.

Shown by Dr. Addinsell.

SARCOMA OF THE UTERUS.

By Dr. Griffith.

Case 1.—March 22nd, 1897.—A lady was seen by me first in March, 1897, age at the time 52. She had had nine children, one miscarriage, the last child thirteen years ago, no complication, and made good recoveries.

She commenced menstruation at thirteen, with no important irregularity until two years ago, then for a year the losses were more profuse. A year ago a moderate flooding occurred, since then she had only slight irregular losses until a month ago, then a flooding, followed by a continuous slight loss until her visit to me. There was little pain at any time, but the hæmorrhage was always followed by relief to pelvic discomfort. Occasionally she had "sharp pains in the womb," and lately offensive viscid mucous discharge between losses of blood.

Her weight was 10 stone 3 lbs., eighteen months ago 10 stone 9 lbs.

She had no important previous illness. I found the uterus to be the size of the fist, and its cavity 4 inches in length. The cervix felt hard and irregular, but on inspection it was not so and did not bleed. I formed the opinion that there was a fibroid and advised dilatation.

March 30th.—I dilated with Matthews Duncan's dilators, and found an interstitial fibroid of the posterior wall, and the uterine cavity much dilated and empty.

May 4th.—Reported well.

September 13th.—Her weight is 10 stone 7 lbs. There have been slight irregular losses since May, and continuous slight loss for the past six weeks, and frequent pain like "after pains" and sciatica; she looks very well, there is no marked change in the uterus.

July 28th, 1898.—Is losing weight, 9 stone 11 lbs.; looks well, but is thinner. Menstrual (?) losses were profuse until February, since absent, but has had a continuous yellow discharge, offensive until she used a regular douche. The discharge is now clear blood-stained mucus; the uterus as before.

March 3rd, 1899.—I saw her with Dr. Hugh Smith, of Highgate. She looks well but is thinner. Hæmorrhage is very profuse. Uterus 5 inches and is more bulky.

9th.—I dilated and removed in fragments a sessile, friable mass like an œdematous fibroid adherent to the posterior wall of uterus, which proved when examined by Dr. Andrewes to be an oval-celled sarcoma.

23rd.—I performed vaginal hysterectomy, and the patient made an uncomplicated recovery.

Since then Mr. Bowlby has had to remove the right kidney, which contained a considerable cyst limited to the lower third.

Case 2.—December 8th, 1897.—A single lady aged 40, was seen by me with Dr. Scott, of Barking, Essex.

She commenced menstruations at fourteen, was always irregular, often with two or three months' interval until the age of twenty-eight, since then regular, duration five days, used eight diapers, with slight pain the first day. For the last twelve months the quantity has been increasing and lately very profuse with clots, and for the last three months with considerable pain during loss, otherwise enjoys good health, is now anæmic. The uterus is enlarged, 3 inches above symphysis, is spherical, cavity measures 3½ inches. Diagnosis fibroid.

January 6th, 1898.—The uterus dilated easily, on the posterior wall is a flat, sessile, fungous mass, soft on the surface only, not friable nor easy to remove with a large curette. Dr. Cheatle kindly examined sections and found only evidence of a degenerating fibroid, not malignant.

April 1st.—In February there was a very profuse period with large clots. March, a normal period, much yellow mucous discharges, sometimes streaked with blood and offensive, no pain since operation. She is thin and anæmic ; uterus as before.

December 5th.—She had married in July, and is much fatter, but anæmic. No very profuse losses. Uterus increased to 7½ inches above pubes. I found a sloughing fibroid protruding into the vagina ; the cervix is thin and dilated.

10th.—During my absence she had a second flooding, and Dr. C. H. Roberts removed a large mass which appeared to be an ordinary sloughing fibroid. This operation was followed by thrombosis of the left femoral vein, and her recovery, though delayed, appeared to be complete.

March 6th, 1899.—I found the uterus again as large as before the last operation, with protruding polypoid masses, a fragment of one afterwards examined by Dr. Andrewes proved to be a round-celled sarcoma.

17th.—I removed the uterus by the combined vaginal and abdominal method. For a week her progress was satisfactory considering the condition of her health ; she then developed acute septic peritonitis, from which she died.

The uterus was found to contain large dense mucoid coagulæ, many of which she had passed during the last few months.

HYDRAMNION IN CASES OF UNIOVIAL OR HOMOLOGOUS TWINS.

By Thomas Wilson, M.D., F.R.C.S.

(Received December 20th, 1898.)

(*Abstract.*)

Although twins derived from separate ova are seven times more common than those derived from a single ovum, hydramnion appears to occur nearly as frequently in the latter variety as in the former. This paper is founded on two cases of uniovial or homologous twins which occurred in the writer's practice, and on twenty other cases collected from various sources.

The usual history of a case of this kind is that the patient, usually a multipara, for the first few months of a pregnancy goes on normally. Then, usually at the fourth or fifth month and without any assignable cause, rapid enlargement of the abdomen begins acutely, and leads in the course of a few days or weeks to extreme distress by reason of the severe pressure symptoms that are set up. The affection ends in nearly every case in premature delivery before the end of the seventh month; in the majority of the cases labour comes on spontaneously; in about 20 per cent. it has to be induced. The contents of the uterus are found to be twin fœtuses of the same sex, one of which is decidedly larger than the other, and is enclosed in an amnion containing an enormous excess of fluid; the smaller fœtus is provided, as a rule, with a normal or deficient quantity of liquor amnii. There are a single placenta common to the two fœtuses, a single chorion, and two amnia. The heart and kidneys of the larger fœtus are hypertrophied, often enor-

mously. Neither fœtus shows any malformation, and the mother is healthy.

The cause of the hydramnion is found in the relation of the vessels of the two fœtuses to the common placenta. The twin whose vessels run a shorter or more direct course obtains an undue share of blood from the placenta, in which anastomoses take place between the vessels belonging to the two fœtuses. In this way one fœtus grows faster than the other, and its heart becomes not only absolutely but also relatively larger than that of the other; that is to say its heart becomes really hypertrophied. This leads in some way to increased uptake of fluid in the placenta, and so to increased exudation by this twin. The increased exudation takes the form of excessive secretion, certainly from the kidneys, probably from the skin, and possibly also from the portion of placenta belonging to the affected fœtus; and the accumulation of these discharges leads rapidly to enormous hydramnion of the same fœtus.

The diagnosis can often be completely made by observing that the signs of a fœtus are limited to a small portion of the circumference of a hydramniotic cyst. The appropriate treatment consists in the induction of premature labour by puncture of the membranes.

Case 1.—Seventh pregnancy; symptoms beginning at the fourth month; labour induced by puncture of the membranes at five and a half months. Larger fœtus, contained in nineteen pints of amniotic fluid, with large heart and kidneys, thick umbilical cord with dilated vessels; smaller twin in separate amnion with normal amount of fluid, umbilical cord long, thin, velamentous; common placenta.

Case 2.—Third pregnancy; symptoms beginning at three and a half months; labour spontaneous at five months; enormous gush of fluid followed by birth of twins contained in their membranes; larger twin hydramniotic; smaller showing marked atrophy of the wall of the left ventricle; common placenta and chorion.

A table is added, embodying these two, and twenty other collected cases.

The special tendency of hydramnion to occur in cases of twin pregnancy is a well-established fact, but it is not generally understood that the disease tends especially to be associated with any particular variety of twins. It appears nevertheless to be true that there is a much greater predisposition to its occurrence in cases of twins derived from a single ovum, than in the commoner variety of twins developed from separate ova. The uniovial variety of twins is of interest for many reasons: the fœtuses are always of the same sex, and are much more alike than are those developed from different ova; they have a single placenta in which anastomoses take place between their vessels; acardiac monsters are generally admitted to arise only in this variety of pregnancy, the deformity of one fœtus being brought about by the action of the heart of the other on the common placental circulation; and fœtus papyraceus is relatively more common in this form of twins. Finally, I believe I shall be able to show that there is a special predisposition to the occurrence of acute hydramnion in the sac of the larger of homologous twins, a condition to which Schatz was the first to draw attention in 1882. By a curious coincidence two cases of this affection came under my notice at the end of last year, and these have led me to investigate the subject. I find that a case similar to these two was described by Graily Hewitt in the 'Transactions of the Obstetrical Society' for the year 1870, but since then no particular attention seems to have been given to the subject of hydramnion by this Society.

In going through such literature as has been accessible to me I have collected 101 cases of hydramnion in which details more or less adequate are given. Of these 101 cases, 51 occurred in single pregnancies, 46 in twins, and 4 in triplets. Of the 46 twin cases, at least 22 appear to have occurred in the homologous or uniovial variety. Hence it would appear that although twins developed from different ova are seven times as common as uniovial twins, hydramnion is nearly as frequent in the latter variety as in

the former. I have appended to this paper full notes of my own two cases, and tables of 22 homologous cases, including these.

The usual history of a case of hydramnion with uniovial twins, is that the patient, usually a multipara, for the first few months of a pregnancy goes on normally. Then, usually at the fourth or fifth month, and as a rule without any assignable cause, rapid and progressive enlargement of the abdomen begins acutely, and leads in the course of a few days or weeks to extreme distress by reason of the severe pressure symptoms which are set up. The affection ends in nearly every case in premature delivery before the end of the seventh month; in the majority of cases labour is spontaneous; in about 20 per cent. it has to be induced. The contents of the uterus are found to be twin fœtuses of the same sex, one of which is decidedly larger than the other and is enclosed in an amnion containing an enormous excess of fluid; the smaller fœtus is provided, as a rule, with a normal or deficient quantity of liquor amnii. There is a single placenta common to the two fœtuses, a single chorion, and two amnia. The heart and kidneys of the larger fœtus are hypertrophied, often enormously. Neither fœtus shows any malformation, and the mother is healthy.

Clinical Course.

Onset of disease.—The disease begins in the majority of these cases in the first half of pregnancy. In 15 cases in the table the time is noted at which rapid increase in the size of the abdomen began; this period was in the first four months in 8 of the cases; 4 others began from the fourth to the sixth month, and only 3 after the sixth month.

Rapid increase in the size began

Before 3 months	. . . .	3 cases.
3 to 4	,, ...	5 ,,
4 to 5	,, ...	1 ,,
5 to 6	,, ...	3 ,,
6 to 7	,, ...	2 ,,
7 to 8	,, ...	1 ,,
		15 cases.

Onset of labour.—In 17 out of the 22 cases labour came on spontaneously, in 11 out of the 17 at or before the end of the seventh month. In 4 cases labour was induced, in all of them before the end of the seventh month. In 2 other cases the period of onset of labour is not mentioned, and in one abdominal hysterectomy was performed at three and a half months.

Onset of labour.

	Spontaneous.	Induced.
4½ to 5 months . . .	5	1
5 ,, 6 ,, . . .	4	2
6 ,, 7 ,, . . .	2	1
7 ,, 8 ,, . . .	2	0
8 ,, 9 ,, . . .	2	0
	15	4

Course of labour.—Labour is apt to be sluggish as in cases of hydramnion in general; but when all the liquor amnii is discharged at once, delivery may be speedy. In my first case, in which labour was induced, the uterus was completely emptied in seven hours from the time of rupture of the membranes; in the second case labour was spontaneous, and the discharge of liquor amnii was almost immediately followed by the escape of both fœtuses in their membranes, along with the placenta. There was no

unusual hæmorrhage or other sign of inertia in either case, but involution appeared to take place rather more slowly than usual.

M'Clintock found that in nine out of eleven twin cases of all varieties the hydramniotic fœtus was the last born. In my table this point is found noticed in 17 cases, in 9 of which the hydramniotic or larger twin was born last, and in 8 first. In one of my cases both twins were born in the membranes, and in another case in the table it is noted that the smaller fœtus was born in its membranes.

The presentation was noted in 13 of the larger and 13 of the smaller twins. In 11 out of the 13 larger, and in only 4 out of the 13 smaller fœtuses, the vertex presented.

	Larger twins.	Smaller twins.	Total.
Vertex . . .	11 ...	4 ...	15
Face . . .	0 ...	1 ...	1
Feet . . .	1 ...	1 ...	2
Pelvis . . .	0 ...	4 ...	4
Arm or transverse .	1 ...	3 ...	4
	13	13	26

The sex of the fœtuses is mentioned in 19 cases; in 7 male twins were born, and in 12 female; this preponderance of females, though decided, is not so great as in M'Clintock's experience, according to which 28 girls were born to 8 boys. M'Clintock's statistics, however, do not separate the conditions in twin cases from those found in single pregnancies, so that the two sets of figures are not comparable.

With regard to the survival of the fœtuses, hydramnion has a disastrous effect, especially on the smaller, non-hydramniotic twin. Out of 34 fœtuses noted in the table, only 7 survived birth more than a few minutes, and of these 7 all but one died within three days. Of 17 larger

or hydramniotic twins 5 were dead, and 2 others macerated at birth, and 4 lived only for a few hours; while of 17 corresponding smaller twins 8 were born dead and 4 others macerated, only two living more than a few minutes.

	Larger twins.	Smaller twins.	Total.
Macerated . .	2	4	6
Dead . . .	5	8	13
Living few minutes .	5	3	8
Living less than three days	4	2	6
Lived and thrived .	1	0	1
	17	17	34

Ætiology and Morbid Anatomy.

The age of the patient is mentioned in 20 cases in the table, and of these in 9 the age was from thirty to thirty-four years, and in only 6 below thirty years.

Age of the Mother.

20 to 24 years	4 cases.
25 to 29 ,, ...	2 ,,
30 to 34 ,, ...	9 ,,
35 to 39 ,, ...	2 ,,
40 to 44 ,, ...	3 ,,

The number of the pregnancy is given in 20 cases, 3 of them arising in primiparæ, and 8 others occurring in pregnancies up to the fourth inclusive. The other 9 cases, nearly half the total, occurred in pregnancies from the sixth to the sixteenth inclusive.

Number of Pregnancies.

1st	3 cases.	9th	1 case.
2nd	3 „	10th	0 „
3rd	3 „	11th	0 „
4th	2 „	12th	2 cases.
5th	0 „	13th	0 „
6th	2 „	14th	0 „
7th	2 „	15th	0 „
8th	1 case.	16th	1 case.

It appears, therefore, that this class of cases of hydramnion follows the same rules as twin pregnancies in general, in being relatively more frequent in proportion to the number of the pregnancy, and to the age of the mother.

In two of the 22 cases referred to in the tables, there is mention of a cause for the occurrence of the condition. In Graily Hewitt's case it was thought that the hydramnion might have been due to trouble and anxiety in the previous twelve months, and in another case (Kruse) the sudden onset of rapid abdominal increase in size immediately followed a fall on the abdomen. In not one of the patients was there any history or proof of syphilis, and in none was there any general or organic disease in the mother to account for the affection. In only one case was there any real evidence of disease of the uterus itself; this was in the patient upon whom abdominal hysterectomy was performed by Dr. Bantock, and in whose uterus Mr. Bland Sutton found and described a condition of diffuse fibro-myoma of the anterior wall. My first patient had been curetted some months previously, and the second one had been ill in bed for two months after the last labour, which had occurred six years previously; but in neither case does there appear to be any reason to connect the condition with the occurrence of hydramnion.

The occurrence of the affection in one special variety of twins, and the limitation of the hydramnion to one of the fœtuses, which is always the larger, together with the absence of conditions in the mother which might reasonably be supposed to cause the affection, make it likely that the cause or causes will be found in the fœtuses themselves, or in the placenta and the mode of their connection with it.

As regards the fœtuses themselves, the only structural abnormalities that have been noted in the smaller or oligo-hydramniotic fœtuses occurred in my second case, where the walls of the left ventricle were notably thin, and in Gottschalk's case, where the heart is described as very small, pale, and atrophied. In Gottschalk's case the twin contained in the oligo-hydramniotic sac showed marked œdema of the neck and upper part of the trunk. This case is exceptional in many respects, and is the only one in which the polyhydramniotic fœtus lived more than three days. In two instances, where the kidneys of the smaller fœtus were carefully weighed and compared with others (Schatz, Werth), they were thought not to depart from the normal in size.

The larger fœtus, on the other hand, in every case in which it has been carefully examined, has shown marked departures from the normal in the heart and kidneys; in many cases also other abnormalities have been noted. In 11 out of the 22 cases in my table, this examination of the fœtuses is absent or very prefunctory; in the other 11 a more or less complete report has been made.

In 10 of these 11 cases the heart of the larger, the hydramniotic fœtus, has been found markedly enlarged; in the eleventh case the hydramniotic fœtus lived. In one case the cavities are described as dilated; in another the heart was much hypertrophied, especially the left half. In 5, including my own 2, the hypertrophy was marked and equal on the two sides. In 2 cases careful comparative measurements proved that both sides of the heart were much hypertrophied, both absolutely as com-

pared with the heart of the other fœtus, and relatively to the normal size of the heart in fœtuses of the same size, age, and development. In one case almost complete obliteration of the ductus arteriosus is described (Nieberding) ; in the same case there was œdema of the part of the placenta corresponding to the larger fœtus, and general dropsy of the fœtus itself. This condition of the ductus arteriosus has not been noted in any other instances, and in at least 3, including my own 2 cases, the duct has been found to be normal.

The condition of the kidneys is noted in 7 cases ; in 4, including my 2 cases, they were much larger than those of the corresponding smaller fœtus ; in a fifth they are described as hypertrophied, and in the other 2 cases (Schatz, Case 3, and Westphalen) they were decidedly larger, and had attained a higher degree of histological development than those of the other twin. The bladder was found to be distended in two cases, and to contain 150 grammes of urine in a third ; in two other cases the organ was hypertrophied. The larger fœtus in one case (Schatz, Case 2) lived six hours, and in that time passed urine frequently, and in considerable quantity.

There was general œdema of the larger twin in 1 case, œdema of the head and abdomen in a second ; much ascites was noticed in 2 further cases, and a little in another. Hæmorrhage had taken place into the peritoneal cavity in my second case.

The liver was congested in 2 cases, cirrhosed in 2 others ; in still another case it was a little larger, and in 2 others decidedly smaller than that of the corresponding twin. In my own 2 cases the livers in each pair of fœtuses appeared to be relatively equal in size.

In 1 case only out of the 22 is the placenta described as œdematous ; in the others no pathological change appears to have been seen. Several of the placentæ were injected, and showed anastomoses between the vessels of the 2 fœtuses. The larger fœtus always has assigned to

it the larger portion of the placenta, as shown by the position of the amniotic septum and by injection.

The insertion of the umbilical cord into the common placenta is noted in 11 of the larger and 13 of the smaller fœtuses, and in no less than 5 of the 13 smaller ones the insertion is velamentous. In 2 cases the cord of the smaller fœtus was no thicker than a cedar pencil. In 7 cases the cord of the larger fœtus was decidedly thick, or described as œdematous. In 5 cases the longer cord belonged to the smaller fœtus, in 3 to the larger or hydramniotic one.

Insertion of Umbilical Cord.

	Larger Twin.	Smaller Twin.
Placental	4	1
Excentric	3	2
Marginal	4	5
Velamentous . . .	0	5
	11	13

The amount of liquor amnii is described in general terms as enormous, very large, as flooding the bed and floor, and so on. In several cases it was measured in quantities varying from about 9 pints to 2½ gallons. When higher quantities are given they are usually guesses, and probably exaggerated. In my first case 19 pints were measured, and had accumulated in 6 weeks.

The smaller fœtus is described in 4 cases as having had extremely little liquor amnii, and in 1 of these the fœtus showed from this cause pressure-marks over the internal malleoli and the inner sides of the knees. In Graily Hewitt's case the smaller fœtus had 12 ounces of liquor amnii at 6½ months, and in another case the smaller fœtus had 2 pints at 5 months. It was not observed in either of my cases that the quantity of liquor amnii with the smaller fœtus was particularly small, neither were any pressure-marks noticed. No relation between the quantity

of fluid and the life or death of the fœtus can be discerned, and the small quantity noted in some cases cannot be considered an essential part of the pathological process.

Since acardiac monsters arise in the same variety of twins as these cases of hydramnion, it might be expected that the two conditions would sometimes occur together. Such a concurrence did not take place in any of the 22 cases in the table, but Charpentier ('Traité Pratique des Accouchements,' 2nd edit., vol. i, p. 961) notes that Richelot has described such a case at the Obstetrical and Gynæcological Society of Paris; and Penny ('Amer. Journ. Obst.,' November, 1889, p. 1151) has described a case of hydramnion in a triplet pregnancy with a common placenta, one of the fœtuses being an œdematous acardiac acephalous monster.

Pathology.

In considering the origin of the excess of fluid in these cases of hydramnion, it may be remarked, in the first place, that there is no reason to believe that the amnion itself has anything more than a passive relation to the fluid contained in it; at the most, the membrane allows passage of fluid to take place across it from the placenta into the amniotic cavity, and possibly in the reverse direction. In none of our 22 cases was there any anomaly in the appearance of the amnion other than a certain amount of thinning and increased transparency, probably due to stretching; this thinning of the membrane was notably present in my first case. Absorption across the amnion takes place in certain circumstances, as is proved by the passage into the mother's circulation of strychnia injected into the amniotic cavity (Gusserow), and also by the drying-up which is sometimes observed after the death of a twin fœtus, leading to the formation of the so-called fœtus papyraceus. But in the cases we are considering, the excess of fluid is so great as to make it improbable that any great part of the excess can be due

to interference with the possible absorptive properties of the amnion.

We have to look, therefore, to increased exudation for the required explanation, and this increase may be derived either from the mother or from the implicated fœtus. Unfortunately our knowledge of the physiology of pregnancy and of the normal origin of the liquor amnii is too limited and uncertain to afford any sound basis for accurately deducing the source of the excess of fluid in a case of hydramnion. In mammals the ultimate source of the liquor amnii is the maternal blood; but whether any part of the secretion comes direct from the maternal vessels, or whether the whole of it is separated by the fœtus, is quite uncertain.

The possible maternal sources of the fluid are the decidua vera and reflexa and the maternal placenta. As regards the decidua, any increased fluid would be at least more likely to escape externally than to traverse the chorion and amnion, and there is no reason why fluid from this source should affect one fœtus rather than the other. Effusion direct from the maternal portion of the placenta would also be likely to affect both fœtuses, while, on the other hand, it is quite conceivable that excessive effusion from the placental vessels of one fœtus might take place and lead to hydramnion affecting the sac of that fœtus only. As has been pointed out already, real evidence of disease in the uterus was found only in one case in the table, while in none of the mothers was there any general or organic affection, nor any dropsy other than a moderate œdema secondary to the rapid abdominal distension.

Hence it appears that the cause of this affection is to be sought not in the maternal system, but in some condition of the ovum; and in relation to this we find the following facts, which appear to demand consideration:— The fœtus in the hydramniotic sac is always decidedly larger than its fellow, and shows marked hypertrophy of its heart and kidneys, by comparison not only with the

heart and kidneys of the smaller fœtus, but also with those of a normal fœtus of the same age, size, and development; the hydramniotic fœtus is in possession of a much larger share of the placenta than the other; the liquor amnii, although in such enormous excess, contains a proportion of urea equal to or greater than the normal; the cord of the smaller fœtus has a velamentous insertion in more than one third of the cases recorded, and is attached within the margin of the common placenta in only a very small proportion of the cases. The placenta is common to the two fœtuses, and in addition to the portion peculiar to each fœtus, presents a third intermediate portion, which communicates with the vessels of both.

Now the increased formation of fluid by the fœtus may be due either to a dropsy or to an increase in one or more of the normal secretions. We will first consider the explanations which assume that the hydramnion is a dropsy. Küstner found in his first case that there was notable ascites in the larger hydramniotic fœtus, and both the ascites and the hydramnion were ascribed by him to cirrhosis of the fœtal liver which was found to be present, and which, without any evidence, was put down to congenital syphilis. In his second case the same author found only moderate ascites, while the liver was merely congested. The syphilitic theory was abandoned, and the hydramnion ascribed to breaking down of the heart's power following on hypertrophy. This cardiac failure gave rise to the congestion of the liver and to obstruction to the umbilical vein, and so to increased effusion of fluid into the amnion. These theories of Küstner's are ingenious but not convincing, and careful investigation of other cases has not confirmed them. The liver of the larger fœtus does not appear to show any constant change or succession of changes, and there is no evidence of failure of the heart's action such as should be found in the fœtus itself.

Other dropsical theories were put forward by Nieberding, who described premature obliteration of the ductus

arteriosus of the larger fœtus in his case, and by Sallinger, who ascribed the hydramnion to pressure on the vessels at the umbilicus by the distended bladder. In support of these theories no additional cases have been brought forward. Looking through the cases in the table, it is found that in only one has the placenta been described as œdematous, in only two cases has there been dropsy of the fœtuses concerned, and in at least one of these two the fœtus was dead and macerated; ascites in considerable quantity was present in only two cases, and no evidence has been adduced of obstruction to the vessels by any affection of the umbilical cord of the larger fœtus. It does not appear, therefore, that the increased accumulation of fluid is due to a dropsical exudation at all, and perhaps the names hydramnion and hydrops amnii have been unfortunate in suggesting this view.

That view remains for consideration which looks upon the excessive liquor amnii as a consequence of increased formation of one or more of the ordinary fœtal secretions. In the placenta, water and other constituents of the fœtal blood are transferred from the maternal blood to the fœtal blood circulating in the vessels of the chorionic villi, by processes partly of osmosis and filtration. In addition, the epithelium covering the villi no doubt exercises a selective action on the passage of materials, and it is quite possible, and even likely, that this selective property may be deranged by anomalies in the fœtal circulation such as excessive rapidity of the blood current or alterations in blood pressure. Whatever the reason, fluid in excess of fœtal requirements is taken into the circulating blood of the fœtus. Such an excess may be got rid of in at least three ways:—(1) by the fœtal kidneys, (2) by the fœtal skin, and (3) by exudation from the fœtal surface of the placenta across the amnion. In either or all of these ways an excessive accumulation of liquor amnii may be brought about.

There is plenty of evidence to show that part at least of the excess is due to the abundant formation and dis-

charge of fœtal urine during pregnancy. The kidneys of the affected fœtus are greatly hypertrophied; a considerable quantity of urine has been found in the bladder in some cases, and one fœtus was observed to pass urine much and often in the few hours succeeding its birth. Examination of the liquor amnii tends further to support this view; in three cases, including one of my own, in which this examination was made, urea was found in proportions varying from ·025 to ·07 per cent.

It has been objected that the whole of the excess of liquor amnii in these cases cannot be due to fœtal urine, and this is probably true, because a calculation comparing the quantity with the amount of urine passed by an adult in the same time, appears to show that an enormous degree of polyuria would be required. Further, if the whole excess were due to fœtal urine, we might expect the reaction of the liquor amnii to be rather on the acid side of neutrality, instead of being, as it is found to be, alkaline.

Nothing is known as to the possible part which the skin of the fœtus takes in forming liquor amnii, and little that is certain is known as to the possible exudation from the surface of the placenta. On injecting warm water into the umbilical vessels, several observers have seen fluid exude from the fœtal surface of the amnion where the membrane covers the placenta. Jungbluth described in the superficial layer of the placenta, in the chorionic membrane that is, a system of capillaries or vasa propria, which communicates with the fœtal placental vessels; these special vessels are abundant before the middle of pregnancy and normally become gradually obliterated in the second half; where they persist they give rise to hydramnion. These observations have been confirmed by some and not by other experimenters, but even granting that they are valid, it is obvious that in them we have only a part of the mechanism of production of excessive liquor amnii and not the cause of the excess.

The active agent in producing excessive exudation of fluid from the fœtal circulation, no matter by what outlet the fluid may escape, is to be sought in that hypertrophy of the fœtal heart which has been remarked in every case that has been carefully examined. This condition no doubt gives rise to increased velocity of the circulation, and to increase in blood pressure, both of which are likely to lead to increase in the renal and cutaneous excretions of the fœtus. It is more difficult to understand the relation of the cardiac hypertrophy to increased absorption of fluid in the placenta. It may well be that the tone of the fœtal vessels in the placenta bears an inverse relation to the tone of the vessels of the fœtus itself, so that when there is vascular constriction of the latter there is corresponding relaxation of the former, and *vice versâ*. On this assumption there will be a relatively high tension blood stream coursing through the vessels of the fœtus, and notably through those of its kidneys and skin; while the blood stream in the chorionic villi is at correspondingly low tension. Fluid will then be taken up rapidly in the placenta, and given off as rapidly by the fœtus. Possibly also an excited or over-stimulated condition of the chorionic epithelium arises, but too little is known of the physiology and pathology of the placenta and fœtus to enable more than a mere guess to be made.

The cause of the cardiac hypertrophy is to be found partly, at least, in the relation of the vessels of the two fœtuses to the common placenta. In the placenta of uniovial twins there is generally, in addition to the portion belonging to each twin, a third portion which is connected with the vessels of both the fœtuses. From the time when the allantoides first carry blood-vessels to the part of the chorion which is to form the placenta, it may be that one fœtus has an advantage over the other, by a difference either in the length or the insertion of its cord. Thus the heart of the fœtus with the shorter cord will more easily drive the blood to the placenta, and,

what is possibly of even greater importance, will obtain the return blood with greater facility than that of the other fœtus. In this way alone it may be that the fœtus with the shorter cord will soon acquire for itself the whole or a large part of the intermediate common portion of placenta. In a similar way that fœtus whose cord goes most directly to the placenta will obtain the advantage. That these differences between the cords of the two fœtuses do exist is shown very emphatically in our table, from which it appears that the cord of the smaller fœtus has a velamentous insertion in more than a third of the cases, and that the longer cord in most cases belongs also to the same twin.

As soon as one of the fœtuses begins to obtain blood from the placenta in greater quantity and more easily than the other, it will begin to grow more quickly, and its heart, along with the rest of its organs will develop more rapidly; but this does not serve to explain the absolute hypertrophy of the heart of the larger twin which is found in these cases. This real hypertrophy must have its cause in increased work, but what this work is is not quite clear. It has been supposed that the heart of the larger fœtus has to carry on part of the circulation of the smaller; if this is so, the heart of the smaller twin should be atrophied in proportion to the hypertrophy of that of the larger. In my second case there was marked thinness of the wall of the left ventricle, and in Gottschalk's case the heart of the oligo-hydramniotic fœtus was small, pale, and atrophied; but in no other case in the table has such an observation been made. Further, the kidneys of the smaller fœtus do not seem to be below the normal size, and the smallness of the quantity of liquor amnii belonging to the smaller fœtus, which has been found in some cases, is not constant. Finally, the smaller twin appears to be normally and equally developed in all its parts. It may, nevertheless, be supposed that the large anastomoses which have been proved to exist between the placental vessels of the twins allow the heart

of the larger fœtus to carry on part of the circulation, both arterial and venous, of the smaller one. If this is the case, the origin of the real hypertrophy of the first twin's heart appears to be obvious, and in spite of the difficulties just enumerated, this seems to be the most likely explanation. In any case, it would be very difficult to prove a moderate degree of general atrophy of the smaller twin's heart, although it is quite possible that it may really be smaller in some degree or proportion to the real hypertrophy of the heart of the larger twin.

To sum up, in the case of twins derived from a single ovum with a common placenta in which large anastomoses take place between the vessels of the two fœtuses, one of the twins obtains an advantage over the other by reason of shorter or more direct communication with the placental circulation. This twin grows faster than the other, and its heart also becomes not only absolutely but also relatively larger than that of the other; that is to say, its heart really becomes hypertrophied. This leads in some way to increased uptake of fluid in the placenta, and so to increased exudation by this twin. The increased exudation takes the form of excessive secretion, certainly from the kidneys, probably from the skin, and possibly also from the portion of placenta belonging to the affected fœtus; and the accumulation of these discharges leads rapidly to enormous hydramnion of the same fœtus.

Diagnosis.

The diagnosis of hydramnion depends upon the recognition of a pregnancy, accompanied by rapid increase in the size of the abdomen. The pregnancy usually appears to run a normal course for the first few months, and the rapid increase sets in more or less acutely, and soon gives rise to severe pressure symptoms. The physical signs are those of a large, globular, more or less tense cyst, extending upwards from the pelvis, and surrounded above and in the flanks by areas which are resonant to per-

cussion. The diagnosis chiefly lies between hydramnion and pregnancy complicated by ovarian cyst. The most important distinctive signs are to be found in the relation of the uterus to the lower part of the swelling, and in the presence or absence of intermittent contractions. In hydramnion the cervix is softened, and the uterus above it expands into the lower part of the cyst; the cervix is also frequently open, and allows the bag of membranes to be felt, as well as *ballottement* of the fœtus, which may be unusually distinct; the lower end of the cyst with the cervix may be situated rather high up, at the level of the pelvic brim. In ovarian cyst the uterus may also be pulled upwards, but more frequently it is low down in the pelvis, and its body can be made out distinct from the lower end of the cyst by vaginal or rectal examination. A sulcus is often present between the cyst and the pregnant uterus. The very rapid growth of hydramnion to an enormous size is a further point to be considered; it is rare for an ovarian cyst to increase with anything like the same rapidity.

It may frequently be possible to push the diagnosis a step further, and to conclude with a high degree of probability that we have to do with an uniovial twin pregnancy, complicated by hydramnion. This distinction will depend upon the recognition of signs of a fœtus limited to a small portion of the circumference of the cyst. These signs are given by the smaller fœtus in its own smaller amniotic cavity, which may be situated either in the lower portion of the body of the uterus, or at some part of the front or sides of the tumour in the abdomen. In the former case, in spite of signs of the presence of an enormous quantity of fluid in the uterus, *ballottement* of the fœtus that presents over the cervix is very limited. Where the fœtus is under some part of the surface of the abdomen, resistance will be felt constantly in the same limited area; the fœtal heart-sounds may also be heard sonstantly over a certain definite small portion of the curface of the cyst. The recognition of the presence of

a second fœtus will add to the probability of the diagnosis.

Treatment.

It has been suggested in the interest of the fœtuses to make repeated abdominal punctures, withdrawing daily or every few days as much fluid as may be presumed to be secreted in the given time. No harm appears to have been done in this way, but neither has any good resulted, nor is it likely that good will result since the cause of the affection is necessarily left untouched. Drugs are powerless. The mother is in a condition of the greatest suffering and danger, and rapidly becoming worse. Our first duty is to her, in accordance with one of the fundamental principles of our art, and it becomes more easy to act upon this principle, because, as has been seen, the hydramnion inevitably leads either to the death of the fœtuses, or to the birth of children which practically never survive more than three days. The induction of abortion as soon as the diagnosis is made, and as soon as the symptoms begin to be urgent is for these reasons clearly indicated. The best method of induction appears to be puncture of the membranes. The passage of a bougie has been tried, but does not appear to be certain to produce the desired effect in this class of case, and even when it succeeds relief is not so speedy. After the membranes are punctured relief is immediate, contractions soon set in, and there seems to be no ground for the fear that inertia of the uterus or hæmorrhage are likely to be more troublesome after this method, than after any other.

Table of Homologous T

No.	Author.	Reference.	Age.	Number of pregnancy.	Mother.	Symptoms began.	Labour came on.	Mode of onset.	Quantit of li am
1	Schatz	Archiv für Gynäk., xix, 1882, p. 329, Case 1	?	?	—	4th month	End of 5th month	Spontaneous	Enor
2	Ibid.	Case 2	33	3rd	—	Before 7th month	End of 8th month	„	Bed flo floo
3	Ibid.	Case 3	35	9th	—	? From the beginning	5½ mos.	„	Enor
4	Ibid.	Case 5. From Hueter, Der einfache Mutterkuchen der Zwillinge, Marburg and Leipsig, 1845	23	1st	—	—	7½ mos.	„	"In dib
5	Ibid.	Case 6	30	3rd	—	—	—	„	Very amo
6	Ibid.	Case 7. From E. Martin, Monatss. für Geburtshülfe, Bd. xxx, s. 5	26	4th, 2nd and 3rd were abortions	—	—	5½ mos.	„	So g tha esca wit rus no
7	Ibid.	Case 9. Sallinger, Ueber Hydramnios, u.s.w., Inaug. Diss., Zurich, 1875	32	2nd	—	5½ mos.	6 mos.	„	15 li

Hydramnion.

of ses.	Which fœtus first born.	Larger fœtus.			Smaller fœtus.		
		Condition at birth.	Presentation.	Cord.	Condition at birth.	Presentation.	Cord.
	The one with little liq. amnii	—	—	—	—	—	—
.	The hydramniotic fœtus	Living, died in 6 hours; 40 cm. long; 1080 grm.	Vertex	Excentric	Living; died in 53 hours; 36 cm. long; 820 grm.	Pelvic	Excentric.
.	The larger	Few attempts at respiration 34·25 cm.; 1020 grm.	„	Placental	Few attempts at respiration; 32·5 cm.; 830 grm.	Vertex	Placental.
.	The twin with little liq. amnii; the twins were equal in size	—	„	—	—	„	—
.	The twin with little liq. amnii	Living; 3¼ lbs.	—	16 inches	Dead; 2¾ lbs.	„	25 inches; about 1 inch from umbilicus diminished to not quite 3 lines in thickness.
.	The excessive quantity of fluid; then the smaller fœtus in its membranes; finally the larger fœtus	Dead; 34 cm.; 920 grm.	Vertex	29 cm.	Dead; 26 cm.; 344 grm.	Pelvic	19·5 cm.
.	The fœtus with small amount of liq. amnii	Macerated; 37 cm.; 810·7 grm. but several viscera not included in the weighing	Vertex; forceps	30½ cm.; œdematous; arteries and veins compressed at umbilicus	Died during version and extraction; 35½ cm.; 864·5 grm.	Face and hand	46 cm.

No.	Author.	Reference.	Age.	Number of pregnancy.	Mother.	Symptoms began.	Labour came on.	Mode of onset.	Quantity of liq amn
8	Nieberding	Archiv für Gynäk., xx, 1882, pp. 310, 312. Cf. Küstner, q.v.	32	2nd	No syphilis of father or mother	—	6½ mos.	Induced	1½ buc of wa and b
9	Werth	Archiv für Gynäk., 1882, p. 353	32	6th	—	4th month	4½ mos.	Spontaneous	15 to litres. partun morrh Liq. a neut 1007; 4½ per albu ½ per
10	Küstner	Archiv für Gynäk., xxi, 1883, p. 1; also ib., x, p. 134, Case 1	—	—	—	—	—	—	—
11	Ibid.	Ibid., Case 2	40	12th	—	3rd month	5 mos.	Spontaneous	15 lit Liq. a sligh alkal sp.gr. ·31 se albu ·07 u 9 qu
12	M'Clintock, Case 2	Diseases of Women, p. 378	38	12th	—	8th month	In 9th month	,,	
13	Ibid., Case 3	Ibid., p. 379	24	4th	—	6th month	7 mos.	,,	2 to gall
14	Graily Hewitt	Obst. Trans., xi, 1870, p. 38	40	16th	Trouble and anxiety in last 12 months owing to disappearance of a son	5½ mos.	6½ mos.	,,	Dren bed floo wa
15	Lichliter	Amer. Journ. Obstet., 1885, p. 590	31	2nd	—	—	5th month	,,	Estim at 5 l

of ses.	Which fœtus first born.	Larger fœtus.			Smaller fœtus.		
		Condition at birth.	Presentation.	Cord.	Condition at birth.	Presentation.	Cord.
.	—	—	—	—	—	—	—
.	Larger	Died in ¼ hour, 30 cm., 530 grm.	Vertex	Short, thick, marginal	Dead, 25 cm., 320 grm.	Transverse	Long, thin, excentric.
—	—	—	—	—	—	—	—
.	Larger	Died in ¼ hour, 21 cm.	Vertex	Central, œdematous	Dead, 18 cm.	Transverse	Velamentous, thin.
.	The one which was not hydramniotic	Macerated	—	—	Macerated	—	Velamentous.
.	„	Lived a few hours	Feet	—	„	—	—
?	Smaller	Lived a short time; twice as heavy as other	Vertex	—	„	Feet	Velamentous.
.	„	Dead, 705 grm.	Head	Central, three times as thick as other	Macerated, 390 grm.	Head	Velamentous; not thicker than a pencil.

No.	Author.	Reference.	Age.	Number of pregnancy.	Mother.	Symptoms began.	Labour came on.	Mode of onset.	Quantity, &c. of liquor amnii.
16	Wilson, R. T.	Ibid., 1887, p. 1	31	7th	Normal pregnancy 1½ years later; no syphilis	4 mos.	5 mos.	First exploratory laparotomy; wound closed; membranes then ruptured	Estimated at 7 gallons
17	Bantock	Brit. Gyn. Journ., vol. iii, 1887-8, p. 489	32	6th	Diffuse fibromyoma of anterior wall of uterus; *one* corpus luteum	3rd month	3½ mos.	Supravaginal hysterectomy	13 pints
18	Kruse	Deut. med. Woch., No. 5, 1890; cf. Brit. Med. Journ., ii, 1890, p. 96	41	8th	—	Sudden onset after fall on abdomen	6 mos.	Membranes ruptured; elastic catheter no effect	7 quarts
19	Gottschalk	Archiv für Gynäk., vol. li, p. 389	20	1st	Melancholia, sleeplessness; urine solid on boiling	7 mos.	9th month	Spontaneous	Enormous
20	Westphalen	Ibid., vol. liii, p. 39	23	1st	Was a twin born after a brother	5th month	6th month	„	6 litres
21	Wilson, Thomas, Case 1		34	7th	Previous curetting	4 mos.	5½ mos.	Membranes ruptured	19 pints measured alkaline sp. gr. 10 albumen thick clots urea ·0 per cent Very gre
22	Ibid., Case 2		29	3rd	Ill in bed 2 months after last labour	3½ mos.	5 mos.	Spontaneous	

Sex of fœtuses.	Which fœtus first born.	Larger fœtus.			Smaller fœtus.		
		Condition at birth.	Presentation.	Cord.	Condition at birth.	Presentation.	Cord.
F.	Larger	Dead, 31·5 cm.	—	Near margin, 36 cm. long, 1 cm. thick	Dead, 25 cm.	—	Near margin, 32 cm. long, ·8 cm. thick.
F.	Operation; examined by Bland Sutton; one fœtus smaller	—	—	Near margin	—	—	Near margin.
M.	—	—	—	—	—	—	—
F.	Larger, *i.e.* hydramniotic	Lived and thrived, 5 lbs., 45 cm.	Vertex	Central, thick, large, tortuous vessels, 40 cm.	Lived 20 minutes, 5½ lbs., 48 cm.	Transverse; cephalic version, then face presentation	Marginal; thin, small vessels, 30 cm.
F.	Larger	Lived 9 hours, 920 grm., 38 cm.	„	Near margin; thick, with large vessels	Lived 1 hour, 600 grm., 31 cm.	Pelvic	Marginal; very thin.
M.	„	Dead, 1 lb. 11 oz.	Arm	Placental; shorter than other. 2 cm. diam.	Dead, 1 lb. 3 oz.	Breech	Velamentous; 41 cm., 1 cm. diam.
M.	Gush of fluid, then whole ovum altogether	Few respirations, 14½ oz.	—	Placental; 29 cm., 1·4 cm.	Few respirations, 10½ oz.	—	Marginal; 36 cm., 1·1 cm.

TABLE II.—*Results*

No. in Table I and name of author	Larger twin.		
	Heart.	Liver.	Urinary organs.
2. Schatz, Case 2	Twice as large as that of smaller relatively to size of fœtuses	Little larger than that of smaller. 46 grm. : 40 grm.	Passed urine often and mu during six hours of li Kidneys much larger th those of smaller
3. Ibid., Case 3	Relatively almost twice as large as that of smaller one.	Much smaller. 57 grm. : 74·5 grm.	Kidneys decidedly larg absolutely and relatively
7. Sallinger	Cavities dilated	Small, with extravasation of blood. Cirrhosis	Bladder contained 150 gr urine. Urethra closed agglutination, probably long before death
8. Nieberding	Much hypertrophy, especially left. Obliteration of ductus arteriosus	Congested	Kidneys very hypertrophi Bladder distended with uri
9. Werth	Hypertrophy, equal on the two sides	—	Kidneys much hypertrophie
10. Küstner, Case 1	Ditto	Rather small, cirrhosis	—
11. Ibid., Case 2	Ditto	Hypertrophic. Congestion	—
20. Westphalen	Calculated pro mille for each fœtus.—11·2 in larger to 7·3 in smaller	Much smaller	Kidneys much larger and mo developed, 9·34 per mille larger to 5·83 per mille smaller. Bladder hypert phied in larger fœtus
21. Wilson, Thomas, Case I	Hypertrophy, equal on the two sides	Large	Kidneys very large
22. Ibid, Case II	Ditto	Relatively equal to that of smaller	Kidneys very large. Bladd hypertrophied

In Gottschalk's case, 19 in the table, the hydramniotic fœtus lived a smaller quantity of liquor amnii was larger and heavier than the other. T was very small, the cardiac muscle pale and atrophied; the liver was la 11 grammes. There was much œdema, causing prominent swelling of t was a moderate amount of fluid in all the serous cavities. Only a few t responding portion of the placenta the vessels in the villi had a very sm were thicker walled, larger, and filled with blood. There was a disti fœtuses.

Examination of Fœtuses, &c.

Remarks.	Smaller twin.	Placenta.
—	Almost no liquor amnii. Pressure marks over int. malleoli, and int. condyles of knees. Did not pass urine during life	Communication between arteries.
scites, 34 c.cm.	Almost no liquor amnii. Kidneys of smaller fœtus, microscopical structure less advanced in all parts than in those of larger fœtus	Jungbluth's vessels not clearly injected.
scites. Œdematous head	—	Not œdematous.
ellular tissue dropsical, and notable amount of fluid in the body cavities	—	Placenta of larger fœtus œdematous ; Jungbluth's vessels not more marked in this half.
—	Almost no liquor amnii. Kidneys in this fœtus probably normal in size. Cf. also Schatz	Injection of veins showed several coarse anastomoses.
scites, 150 cm.	—	
scites, few teaspoonsful	Extremely little liquor amnii	—
—	—	—
o ascites. Ductus arteriosus normal. No histological differences between the kidneys and livers of the two fœtuses	—	—
Ditto	Wall of left ventricle very thin	One large venous anastomosis between the two portions of placenta.

rived. This case was also exceptional in the fact that the fœtus with the part of this, which corresponds to the smaller fœtus in all the other cases, nd very vascular ; the kidneys measured 40 × 17 × 17 mm., and weighed eck and upper part of the trunk and leading to face presentation ; and there poonsful of fluid were present in the amnion of this fœtus, and in the cormen and thin walls. Those belonging to the other, the hydramniotic fœtus, ecidual septum separating the portions of placenta belonging to the two

Case 1.—Seventh pregnancy, twins at about five and a half months; both males; one much larger, contained in nineteen pints of amniotic fluid, with large heart and kidneys, large umbilical cord with dilated vessels; the other twin smaller, in separate amnion, with normal amount of fluid; umbilical cord long, thin, velamentous; common placenta.

E. K—, æt. 34, was seen and examined by me on August 17th, 1897; the last period had ended eleven weeks before this date, and the uterus presented all the characters of a pregnancy of about this duration. The woman was not seen again until November 2nd, eleven weeks after the first visit; she then appeared with a very large swelling of the abdomen, which she said had rapidly come on, without any assignable cause, during the preceding six weeks. The patient walked into the room fairly briskly, and did not look particularly ill. In the weeks before this visit there had been pain in the lower ribs, and severe scalding pain above the umbilicus which interfered with lying down or stooping, and had also prevented sleep. About a month previously the legs had been much swollen and shining and their veins enlarged, but these had been better in the last fortnight. There had been no vomiting during the six weeks, but the woman was unable to take a meal; after a mouthful or two she felt bloated and had to stop. The face and chest and arms have become thinner. Only a small quantity of urine has been passed, and there has been no increased frequency of micturition. The bowels have moved only after aperients, and there has been much discomfort from and difficulty in passing flatus.

The abdomen was observed to be large and globular in shape. The circumference at the umbilicus was 41 inches, the distance between the ensiform cartilage and the pubes 21½ inches. The umbilicus was obliterated, there was extreme enlargement of a coarse-meshed network of veins over the whole front and sides of the abdomen, and over the whole of both lower limbs; these

last were decidedly swollen but did not pit on pressure. The swelling of the abdomen was uniform, and there was no difference in the resistance to palpation at any part. Fluctuation thrill was fairly distinct over the upper part of the front of the abdomen, obscure over the rest of the front. There was resonance to percussion far back in the flanks and for a short distance below the ensiform cartilage in front, elsewhere dulness. No sound could be heard over the tumour. While watching the abdomen, slow contractions were observed from time to time to pass over patches of the surface, especially at the upper part; on the following day these contractions were not observed, but changes in consistence were thought to occur slowly from time to time. Vaginal examination showed the cervix and internal os to be patulous almost for two fingers; a quite lax bag of membranes was felt containing a small fœtus, which gave very distinct and well-marked *ballottement*. The vulva was much swollen with many large veins, and there was profuse discharge of thick tenacious mucus. A small quantity of highly-coloured urine was drawn off by the catheter; this showed no precipitate on boiling, nor with the nitric acid contact test, but on adding nitric acid and boiling there was a brownish precipitate.

The previous history of the woman showed that she had had six children. The last child was born in March, 1896, at the seventh month, and in the lying-in period of this and the two preceding children there had been "inflammation of the bladder." There had been no miscarriages. The patient first came to me in October, 1896, when she had a sausage-shaped soft cystic swelling in the region of the right uterine appendages, which disappeared in the course of a couple of months; at the same time the catamenia had been very profuse at irregular intervals since the last confinement seven months before; the patient was also complaining of fainting turns, with giddiness and loss of sight. As the corporeal endometritis which was diagnosed did not improve, the cervix

was dilated to No. 14 Hegar under an anæsthetic on January 12th, 1897; dilatation was stopped because the internal os began to tear a little; the endometrium was then carefully curetted and swabbed over with iodine. After this the catamenia were regular, natural in quantity, and painless until the beginning of June when conception occurred.

The patient was admitted to hospital on November 2nd, 1897. On the 5th the swelling appeared to be more prominent towards the epigastrium, though measurements showed no notable difference; sleep was prevented by the feeling of pressure in the pit of the stomach, and morphia had been administered for this on two occasions. The physical signs remained the same. It was decided to puncture the membranes. This was done at 11 a.m. with a sound, but only small quantities of fluid escaped. A blunt-pointed cyst trocar was therefore pushed well into the interior of the uterus through the cervix, which allowed the escape of a large quantity of liquor amnii, nineteen pints of which were measured. The uterus contracted well, and labour pains at once came on. The first fœtus, the larger, presented by the arm, and was extracted at 5 p.m. The second smaller fœtus presented by the breech, and was manually extracted at 6.30 p.m. Shortly after the placenta and membranes were extracted, the placenta being unfortunately much torn in the process. The temperature of the patient reached 101·4° F. on the second day, and 101° on two or three occasions in the first four days; afterwards the puerperium was normal. The lochia ran the usual course, but the uterus could still be felt a short distance above the pubes on the fifteenth day after delivery, when the patient was allowed to get up; she returned home on the next day.

The amniotic fluid removed was slightly opalescent, faintly alkaline, of specific gravity 1006; after boiling and adding acetic acid a thick cloud of albumen was precipitated; there was no copper-reducing substance present. Urea was present in the proportion of 0·025

per cent. After standing two days, a small deposit which had appeared was found to consist of a few flat epithelium cells and red blood-corpuscles, with many micro-organisms; there were no crystals.

The fœtuses and membranes were wrapped up, and kept moist for two days before being examined; they were then placed in spirit, and the following description was completed on November 24th.

The fœtuses were both males, and both perfectly formed in every respect. There was a decided difference in the size of the two, both generally and in detail, as shown by the following measurements.

Measurements.

	Large fœtus.		Small fœtus.
Weight	1 lb. 11 oz.	...	1 lb. 3 oz.
Length:			
Vertex to soles of feet	32·5 cm.	...	28·5 cm.
Vertex to buttocks	21·0 „	...	18·5 „
Circumference of head	23·0 „	...	20·0 „
Heart:			
Length from apex to base	3·1 „	...	2·2 „
Breadth at base of ventricle	2·6 „	...	1·8 „
Thickness of walls:			
Right ventricle	0·7 „	...	0·3 „
Septum	0·6 „	...	0·3 „
Left ventricle	0·8 „	...	0·35 „
Liver	Downwards to umbilicus	...	Halfway to umbilicus
Vertical measurement	4·0 cm.	...	3·0 cm.
Transverse measurement	7·0 „	...	5·0 „
Right lobe	4·3 „	...	2·4 „
Left lobe	2·7 „	...	2·6 „

The kidneys, and, indeed, all the organs in the larger fœtus were much larger than in the smaller one. In both fœtuses there were present small quantities of bloody serous fluid in the peritoneal cavity, and also in the pleuræ and pericardium; the quantity in the peritoneal cavities measured about the same, 4 c.c., in each

fœtus. The umbilical veins were normal in both fœtuses. The gall-bladders contained a little fluid. The ductus arteriosus was normally patent in each fœtus. The cavities of the heart were empty of blood. The urinary bladders were both empty.

The placenta and membranes weighed 1 lb. 4½ oz. The placenta was single, but had been a good deal broken up during removal. The amnion of the larger twin, after being partly filled with fluid, was observed to be unusually thin and transparent. The smaller twin had a separate amniotic cavity, normal in size. No thickenings or opacities were observed about the amnion. The chorion was incomplete, but showed no abnormal appearance.

The umbilical cord of the smaller fœtus was 41 cm. long, and 1 cm. in diameter; it was inserted into the membranes about an inch from the margin of the common placenta—placenta velamentosa. The portion of the placenta belonging to this fœtus was soft and spongy, and was broken up into several portions. The cord belonging to the larger fœtus was somewhat shorter than the other; it was about 1 cm. in diameter for the first inch from the fœtus, and then rapidly expanded to 2 cm. in diameter, and continued as thick as three fingers until its insertion into the common placenta at a point about one inch from the margin. The blood-vessels in this cord were very large, the arteries were decidedly tortuous, the veins straight. The portion of the placenta in the neighbourhood of the insertion of this cord formed the larger part of the common placenta, and was somewhat solid and resistent, and rather granular on section.

Microscopical examinations were kindly made for me by Mr. C. Powell White, now Pathologist in the Yorkshire College. No histological difference could be made out in the structure of the kidneys or livers of the two fœtuses.

Case 2.—Third pregnancy; male twins at about five months; one much larger, hydramniotic, with large heart and kidneys, and recent hæmorrhage into the peritoneal cavity; the other smaller, with atrophy of the wall of the left ventricle. Common placenta and chorion.

M. H—, aged 29, was sent by Dr. Pogson as an urgent case to the General Hospital on December 3rd, 1897, in her third pregnancy. The first child was born nine years, and the second six years before, and after the latter the patient had an illness which kept her in bed for two months. The last period before admission finished on July 8th, and for about the first three and a half months pregnancy went on as usual. About six weeks before admission sharp cutting pains in the right side of the abdomen began, and were so severe as to prevent the woman walking about; at about the same time the abdomen began to grow rapidly larger. Morning vomiting was present in the first three months of the pregnancy, but stopped when the swelling began. No swelling about the feet or legs, and no unusual enlargement of veins were noted; no fœtal movements had been felt by the patient. There was inability to take food except in very small quantities, and for a week before admission the woman had been unable to lie on either side because of the pain.

On admission, Mrs. H— was in much distress by reason of the great abdominal enlargement, and she was immediately sent up to the ward. While undressing there were pains, and immediately after she got into bed there was a tremendous gush of fluid, which saturated the bed, and ran through it on to the floor. On looking then into the bed the nurse found the whole ovum, two fœtuses in their membranes with the placenta, all having been expelled together. A moderate quantity of blood had escaped at the same time. Both fœtuses died after a few attempts at respiration.

The patient made a good recovery; the temperature

once reached 100·4° twenty-four hours after delivery; the breasts were tense and somewhat painful for one day, the third. The lochia ran a normal course; on the seventh day the uterus extended upwards rather less than halfway from the pubes to the umbilicus. The woman was sent home on December 13th, and was seen again on the 28th, when she was well, and had only a little mucous discharge. The urine contained no sugar nor albumen.

The complete examination of the fœtuses and membranes, which had been kept in spirit, was made on December 11th. The hole in the membranes was near one edge of the portion of placenta belonging to the larger twin. The amnia were thin and transparent, and showed nothing abnormal; the chorion was single. Both fœtuses were males, apparently of about the fifth month, and both were well developed in every respect. One fœtus was considerably larger than the other; the smaller was contained in an amniotic cavity of average capacity, the larger in an enormously distended one. The umbilical cord of the larger twin was shorter than that of the smaller one, and was attached to the placenta about one inch from the margin; this cord contained larger vessels than the other, and these showed marked tortuosities at intervals along their course. The smaller fœtus had a much smaller and thinner portion of placenta assigned to it, and its longer and thinner cord had a marginal attachment.

Measurements.

	Larger fœtus.		Smaller fœtus.
Weight	14½ oz.	...	10½ oz.
Length:			
Vertex to soles of feet	27·5 cm.	...	25·0 cm.
Vertex to buttocks	18·0 „	...	16·0 „
Circumference of head	19·75 „	...	18·5 „
Umbilical cord:			
Length	29·0 „	...	36·0 „
Thickness	1·4 „	...	1·1 „

	Larger fœtus.	Smaller fœtus.
Heart:		
Length from apex to base .	2·3 cm. ...	1·5 cm.
Breadth at base of ventricles .	2·0 „ ...	1·4 „
Thickness of walls:		
Right ventricle . . .	4·0 mm. ...	3·0 mm.
Septum	6·0 „ ...	4·0 „
Left ventricle . . .	7·0 „ ...	2·0 „
Liver:		
Vertical measurements, right lobe	3·5 cm. ...	4·0 cm.
Transverse measurements .	5·6 „ ...	4·2 „
Transverse, right lobe . . .	3·3 „ . .	2·5 „
Transverse, left lobe . .	2·3 „ ...	1·7 „
Kidneys (left of each fœtus measured):		
Length	2·7 „ ...	1·6 „
Breadth	2·0 „ ...	1·1 „
Thickness	1·2 „ ...	0·8 „

The placenta weighed 16½ oz., and measured 25 × 15 cm. The larger part measured 16 cm. across, and the smaller 9 cm.

The ductus arteriosus was examined in both fœtuses; in the smaller one it appeared to be relatively larger than in the other; in the larger twin it was apparently somewhat collapsed, but still of good size. Both lungs of each fœtus were partly inflated. The spleen of the larger fœtus was about twice as large as that of the smaller. The bladder was empty in each fœtus; that of the bigger twin was decidedly larger and more muscular than that of the smaller.

The peritoneal cavity of the larger twin showed an extravasation of blood, several cubic centimetres in amount, that had clotted in contact with the anterior abdominal wall; the clot extended downward from the lower edge of the liver, and the intestines were behind it; it was dark red in colour and very friable. There were small quantities of bloody serum in the pleural and pericardial cavities of both fœtuses, and in the peritoneum of the smaller one; a similar small quantity of fluid was present in the peritoneal cavity of the larger twin.

The placenta, which was single, was injected by the veins, carmine gelatine being used for the vein of the

larger fœtus's cord and chromate of lead gelatine for that of the smaller. One vein, of about 1 mm. in diameter, ran from the portion of placenta belonging to the smaller fœtus to that of the larger. The placenta belonging to the larger fœtus was thicker and somewhat more consistent, as well as having a much larger surface than the portion belonging to the smaller twin.

Mr. C. Powell White kindly undertook the microscopical examination of the specimens for me. In the placenta the only difference that could be found between the two portions was that the vessels in the part belonging to the larger twin were larger than those in the other portion. The kidneys and livers of the two fœtuses showed no difference at all in histological structure, either from each other or from the normal.

In conclusion, I have to express my sense of obligation to my senior colleague, Dr. Malins, for allowing me, with his customary kindness, to keep these cases under my own care.

Dr. Griffith characterised the paper as the most valuable one on the subject in the Society's 'Transactions,' and one of the most valuable contributions to the subject. His own observations had led him to the same conclusions up to a certain point, but he was unable to accept as proved the view that the fœtal kidneys were sources of either liquor amnii when normal or in excess. It had never been demonstrated that it was possible for a fœtus to overcome the tension of the liquor amnii and so to pass its secretion, if any, into the sac, and there was evidence that it could not do so. Arguments based on stated percentages of urea in the liquor amnii also were to be received with caution, for the culture of minute quantities of these or some similar substance present made their determination a matter of great difficulty.

Dr. Amand Routh thought that the question of the ætiology of hydramnion would not be established without reference to its occurrence in single ova, and did not think that the author's theory would explain many of such cases. It did not account for hydramnion occurring in the acardiac twin instead of the hypercardiac; nor in the majority of such cases being females and often puny and lacking vitality, where the arterial tension must be below normal; nor the cases of anencephalicus, spina bifida, exomphalos, &c., when it was so often present.

He thought the diagnosis by means of uterine contractions most helpful, and if abdominal *ballottement* was obtained over all parts of the abdomen by putting the patient in the knee-chest position on either side, &c., it proved not only hydramnios, but the absence of any complicating ovarian cyst.

Dr. Herbert Spencer congratulated the author on the full account he had given of this interesting condition. With reference to the clinical aspect of the subject, he (Dr. Spencer) had found that *ballottement*, impossible to obtain in the dorsal position, could readily be got by placing the patient in the knee-elbow position, when the fœtus sank to the dependent part of the abdomen and could readily be felt there. Adverting to the differentiated diagnosis between hydramnion and ovarian tumour, he suggested in difficult cases the passing of a bougie in order to distinguish between the two conditions; if the case were one of ovarian tumour complicated by pregnancy, the bougie would not necessarily interfere with the pregnancy. He thought that Dr. Wilson took somewhat too limited a view of the causation of the hydramnion in these cases. It was evident that the theory given by him would not explain cases of hydramnion in which there was only one fœtus, and, according to that theory, hydramnion ought to be excessive in cases of acardiac fœtus where the circulation of the two fœtuses was carried on by the heart of one; this, however, was not the case. He thought that it was a difficult thing to diagnose hypertrophy of the heart in premature fœtuses, the size of the viscera varying very much in fœtuses of the same size. In one of his own cases of acute hydramnion with uniovial twins, the fœtuses were almost of the same weight (one just over, the other just under 1 lb. 4½ oz.) and the hearts appeared to be normal. In this case the cord of the hydramniotic fœtus was much twisted near the fœtus and œdematous beyond (the placenta and cords weighed 1 lb. 7 oz.); the œdema thus produced would, he thought, possibly explain the hydramnion in this case; but he did not see how a hypertrophied heart could explain its occurrence. Since fluid was found experimentally to exude into the amnion whether injected into the fœtal or the maternal circulation, it was possible that hydramnion might arise from abnormalities in either. He agreed with Dr. Wilson in regarding the urine as one of the sources of the liquor amnii; if the fœtus did not pass urine into the amnion fœtal hydronephrosis, of which he had seen several examples, would not occur.

In reply, Dr. Thomas Wilson emphasised the fact that hydramnion, like dropsy and jaundice, is merely a symptom which may depend on some one or more of a variety of causes. The present contribution is intended to deal with one group only of the cases, and no attempt has been made to discuss the causes of hydramnion in general. With reference to the renal theory of the origin

of at least part of the liquor amnii, it was pointed out that while each individual fact brought forward in its support had no great force by itself, yet the number of facts in its favour in the aggregate form proof so strong as to leave very little room for doubting the truth of the theory. In diagnosis intermittent uterine contractions afford important evidence, but they may require to be sought for with patience, possibly on more than one occasion. Treatment by rupture of the membranes would only be undertaken when urgent symptoms in the mother demanded it.

JULY 5TH, 1899.

ALBAN DORAN, F.R.C.S., President, in the Chair.

Present—28 Fellows and 5 visitors.

The following gentlemen were elected Fellows of the Society:—Elgar Down, M.R.C.S., L.R.C.P.Lond. (Devonport); J. Raglan Thomas, M.D.Lond. (Exeter); Thomas Anderson Glover, M.D., C.M.Edin. (Doncaster); Edwin Hugh Grant Morris, M.B., B.C.Camb.; George J. Maguire, M.B., B.Ch. (Richmond); Charles Hollingsworth Clayton, M.R.C.S., L.R.C.P.; J. E. Paul, M.D.

The following gentlemen were proposed for election :— Henry Russell Andrews, M.D.; William Aitken Macleod, M.B., C.M.Edin.; Francis Samuel Peck, M.R.C.S.

THREE UTERI REMOVED BY PANHYSTERECTOMY.

Shown by Dr. LEWERS.

SECONDARY ABDOMINAL PREGNANCY; SEPTIC PERITONITIS; EVACUATION *PER RECTUM;* RECOVERY.

By Dr. Lediard.

Elizabeth S—, aged 43, living in Carlisle. Has had ten children, the youngest being one year old. Her illness began in August, 1893, with violent constant pains in the lower part of the abdomen, which doubled her up and made her take to bed at once. The pain came on suddenly without any warning, and she fainted. She was extremely blanched, and her friends thought she was dying. Confinement to bed for five days followed, and after a fortnight she went about and then had another attack exactly similar to the first. After fourteen days in bed she again improved, but was troubled with pain in the abdomen for seven months.

During this time she noticed a lump forming in the right iliac region, which increased until it became the size of her head, and she thought she was pregnant, and this her medical attendant also believed. Menstruation had ceased entirely.

She was then fairly well and expecting daily to be confined, but gradually began to fail in health, and emaciation began; and two months after she ought, in her own estimation, to have been confined, she came to the Cumberland Infirmary, and was admitted in July, 1894.

It was then found that she had what appeared to be chronic peritonitis with matting of the bowels, with large lumpy masses in the right iliac region. There was extremely offensive diarrhœa, which no medicine checked, and much emaciation.

Abdominal section was considered and negatived on account of the wretched general condition, and the improbability of her surviving any operation. Vaginal and

rectal examination further showed that the pelvis was blocked, and it was difficult to make anything out except dense adhesions, and a diagnosis was not made.

In September a bone was passed *per rectum*, which subsequent examination showed to be a femur, with the epiphyses missing. This caused much relief to fever and general health, and she left the hospital, but returned in January, 1895, with a paper bag containing numerous fœtal bones, and it was now clear what the whole condition was.

She stated that since leaving the hospital she had had severe diarrhœa, and had passed the bones from time to time, but many had been lost in the closet. I found a perforation on the right side of the rectum about three or four inches from the anus, and I felt the sharp edge of a flat bone, apparently the parietal.

Chloroform was given, and this bone as well as other bones were removed from a cavity and irrigation employed; this was on January 23rd, and on February 6th she left the hospital well.

From the first of her illness to the last there was no vaginal discharge of any kind.

The sequence of events in this somewhat remarkable example of secondary abdominal pregnancy is not difficult to follow. Tubal pregnancy in the first instance; rupture of the tube at or about the second or third month; escape of the fœtus into the abdominal cavity; continuation of life and growth of the fœtus for some months up to six or seven months; death of the fœtus and subsequent disorganisation; perforation of the rectum and ultimate liberation of the whole mass bit by bit *per rectum*.

The bones exhibited to the Society are as follows: Parietal, frontal, temporal, superior maxilla, right and left, half lower jaw, portion of humerus, portion of femur, malar, and occipital—twenty-two bones or fragments in all.

The age the fœtus had reached is calculated to be

seven months, and I am obliged to Mr. S. G. Shattock for his authority on this point.

The interest which attaches to this case, relates rather to the endurance of the patient than to the skill of the diagnosis, for this latter was not made until the patient had herself collected and brought to the hospital some of the fœtal bones passed *per rectum*.

Her condition when in hospital was at one time so grave that a contemplated abdominal exploration was considered too full of risk to be attempted.

It was thought that there was a general peritonitis and matting of the intestines due to disease arising within the pelvis, the nature of which was uncertain.

Foul diarrhœa was constant, unchecked by medicine and unaltered by diet, whether liquid or solid. The passage *per rectum* of the thigh bone gave great relief, so much so that the temperature fell and the patient began to pick up, and left the hospital at her own wish, the diagnosis not having been made. It must be admitted that at this time the diagnosis was not only possible, but should have been made correctly; but I consider it fortunate that we remained in ignorance of the real condition, as events proved that the patient was able to rid herself almost entirely of the broken-down fœtus with absolute safety.

Note taken July 3rd, 1899.—The patient is now in good health and has remained so since leaving the hospital, on February 6th, 1895. Menstrual discharge has appeared twice only since then; she is now forty-seven years of age and has passed her climacteric.

Similar Cases recorded in the 'Transactions.'

C. Waller.—A case of extra-uterine fœtation; 'Trans. Obstet. Soc. Lond.,' 1859, vol. i, p. 99.

C. H. Carter.—Extra-uterine fœtation (abdominal); death of the fœtus after six months; suppuration of cyst six years after and discharge of fœtal bones *per rectum*; recovery; *ibid.*, 1880, vol. xxii, p. 166.

. Dr. Lewers mentioned that he had met with a case in the out-patient room of the London Hospital where a portion of a fœtal parietal bone was impacted in the rectum, a case with a history of extra-uterine pregnancy a considerable time before.

SEXUAL DIFFERENCES OF THE FŒTAL PELVIS.

Demonstrated by Prof. Arthur Thomson.

By means of a large number of drawings and lantern slides he supported his opinion that during fœtal life the essentially sexual characters are as well defined as they are in adult forms, and that any differences which occur during growth between the adult and fœtal forms, due, it may be, to the influence of pressure or of muscular traction, affect both sexes alike, and that such influences are in no way accountable for the characteristic features of the pelvis of the female as contrasted with that of the male.

A CASE OF PERSISTENT MENTO-POSTERIOR POSITION OF THE FACE IN WHICH THE CHILD WAS DELIVERED ALIVE BY THE AXIS-TRACTION FORCEPS.

By Arthur H. N. Lewers, M.D.Lond.,

OBSTETRIC PHYSICIAN TO THE LONDON HOSPITAL.

On the 18th of June, 1896, at 2 a.m., I was called by Drs. Haslip and Hamerton to see a lady who had been some time in labour. It was a first confinement. The face presented with the chin directed backwards and to the right. When I saw the case the os had been fully dilated and the membranes ruptured for some time, but progress was completely arrested with the face well down in the pelvis in the position above mentioned. The ordinary long forceps was applied, but slipped as soon as traction was made. I had with me a pair of axis-traction forceps, and with this I succeeded in grasping the head securely. As traction was made, the head came lower and the chin rotated forwards, the child being delivered in a very few minutes. The perinæum was slightly torn, but two stitches (fishing-gut) brought the torn surfaces into good apposition. The child was apparently stillborn, but was revived by artificial respiration according to Sylvester's method. It subsequently did well, but for some weeks there was a good deal of facial paralysis, which, however, ultimately disappeared completely.

This is the second case in which, though the chin was persistently posterior and all progress arrested, I have succeeded in delivering a live child with the axis-traction forceps after failing with forceps of the ordinary pattern. The other case, which was similar in essential points to

the one briefly recorded above, was published in the 'Clinical Journal' for 1892–3, vol. i, p. 120. The chief points of difference were that in the latter case the patient had previously borne eight children, and when delivery was effected with the axis-traction forceps, it was known that nine hours had elapsed since the membranes had ruptured. In both cases the ordinary long forceps had been tried, but slipped as soon as much traction was employed. In the second case also, it should have been mentioned that an attempt was made to rotate the chin forward with the hand, but it proved ineffectual.

In using the axis-traction forceps no effort was made to rotate the chin forwards; traction only was employed at short intervals. The ordinary forceps is well known to be liable to slip when used in cases of face presentation. Thus the late Dr. Braxton Hicks, in recording the case of mento-posterior position of the face, in which he delivered with the ordinary forceps, the chin remaining posterior throughout, says "The instrument frequently slipped, and was as often reapplied" ('Trans. Obst. Soc. Lond.,' vol. vii, p. 64). The same point is alluded to by other authorities. The reason of it appears to be that, in order to grasp the head with the forceps in mento-posterior positions of the face, the instrument must be introduced deeply, *i.e.* so as to grasp the head above the bi-parietal diameter. Now when this has been done, a very slight displacement of the blades backwards, such as is very likely to happen when traction is begun, brings a narrower segment of the head between the blades, and so the instrument slips off. With the axis-traction forceps, if the blades are inserted properly in the first instance, their position can be maintained by fixing the screw, and this position is then little likely to be affected by the subsequent traction.

With the ordinary forceps the hands are doing two things at once—keeping the hold of the head and making traction—while with the axis-traction forceps the hold of the head is maintained with the screw, and the hands

make traction only. However this may be, the fact remains that in two cases in the author's experience, where the chin was directed backwards and all progress arrested, the ordinary forceps proved useless, while delivery was easily effected with the axis-traction forceps. It seemed as if the only thing needed was to bring the head lower, so as to be within the sphere of action of the forces that normally rotate the chin forwards. Under all ordinary conditions, with a fœtal head of normal size and a pelvis not unusually large, it is generally impossible to deliver a child alive with the chin still directed backwards with the forceps, whether of the ordinary or axis-traction pattern. But the latter instrument is effectual in bringing the head lower, and so favouring rotation of the chin forwards by the natural powers. The whole, or almost the whole advantage possessed by axis-traction forceps in the case in question is that it does not slip, while the instrument of the ordinary pattern generally does.

My intention in bringing these cases before the Society has been to elicit from those who have had to deal with persistent mento-posterior positions of the face what their experience has been, and to induce those who may not have used the axis-traction forceps in such circumstances to give the instrument a trial.

Dr. Herbert Spencer agreed with Surgeon-General Harvey's criticism of the author's use of the word "persistent" in describing the case, seeing that the chin did actually rotate forwards when the forceps were applied. He (Dr. Spencer) had met with three cases similar to those described by the author of the paper, in which, with the chin posterior and to one side, the os dilated, the chin low in the pelvis, and progress arrested for some hours, he had easily delivered by converting the face into a vertex by means of Luke Robinson's lever—a highly ingenious instrument which he exhibited to the Society. It had the advantage of converting a difficult face (mento-posterior) into an easy vertex (occipito-anterior). He did not think the use of axis-traction forceps scientific in these cases; it was a dangerous instrument when rotation occurred, constituting then a sort of pointed lever very apt to injure the mother. The firm grip of the head could equally well be obtained with the ordinary forceps by tying the handles; he thought, however, that for

cases which could not be delivered by conversion with the lever, long, straight forceps applied to the child's head would be preferable to the other forms.

Dr. LEWERS said that by the term "persistent" he meant that the chin had remained so long behind that the question of delivering the patient without further delay had become urgent, and had he failed to deliver with the axis-traction forceps the only remaining alternative was craniotomy. Dr. Lewers thought that Dr. Spencer was discussing cases in an altogether different category when he suggested that the cases in this paper might have been treated by conversion of the face presentation into a vertex by means of an instrument like a vectis. Cases of face presentation with the chin directed backwards, Dr. Lewers was well aware, generally terminated by spontaneous rotation of the chin forwards. This rotation, however, was not the rule till a late stage of the labour, when the chin was near the floor of the pelvis and the face therefore deeply engaged. To interfere at an earlier stage and endeavour to convert the face into a vertex presentation was, in his opinion, altogether unnecessary, inasmuch as cases of face presentation almost always terminated naturally, and had a well-recognised mechanism of their own. Apparently Dr. Spencer had not met with two cases similar to those described in Dr. Lewers' paper, but it was scarcely sound reasoning to contend, therefore, that no such cases could occur. On the other hand, all the principal writers on midwifery recognised that in certain rare cases the chin failed to rotate forward and could not be made to rotate forward by any means whatever, and in these very rare cases they all taught that craniotomy was the proper treatment. In Dr. Lewers' two cases it was evident that the patient must be delivered without further delay and, but for the axis-traction forceps, he would have been obliged to perform craniotomy. He thought probably the axis-traction was not an important part of the treatment, but that the axis-traction forceps happen to be the only forceps in which the hold of the head is maintained independently of the operator's hands by means of a screw so that the operator's hands make traction only.

Dr. SPENCER remarked that Dr. Lewers had misunderstood him if he supposed that he had interfered at an early stage; he had never done so, and strongly deprecated such interference. Out of about thirty cases of face presentation he only met with the three mentioned above, and they were, like Dr. Lewers' cases, in an advanced stage of labour, with the os dilated and progress arrested for some hours. It was to be remembered that in these mento-posterior cases, although the face was low, the greater part of the head remained above the brim; by pushing up the face and drawing down the occiput the conversion was easily effected.

NOTES ON A CASE OF PUERPERAL ECLAMPSIA.

By Horace Savory, M.A., M.B., B.C.Cantab.,

BEDFORD.

Mrs. S—, æt. 39, the subject of extensive lupus vulgaris of the face, was expecting her confinement in the first week of January, 1899. She had had four previous confinements; in the first two, delivery was instrumental, in the third natural, and the fourth, in 1893, was accompanied by "fits."

Dr. Warde of Nottingham informed me "she had a bad time, and her treatment consisted of venesection to about a pint, pilocarpin, and rapid delivery." He stated there was no evidence of Bright's disease.

The patient supplemented this account by stating that her legs were swollen and boggy, and that she was unconscious for ten days.

The lupus followed this, her fourth, confinement. During her fifth and last pregnancy she had been very constipated, the bowels only acting once in two or three days; otherwise she has been very well, and there had been no swelling of the legs or puffiness of the face.

On January 2nd, 1899, she did a day's washing, and hung out the clothes to dry, but felt quite well till 8 p.m., when she had a shivering fit, and at 9.30 p.m. began to feel labour pains. She passed water freely during this time, and some of it was found in the utensil; it was clear, straw-coloured, and contained only ·1 per

cent. albumen. Labour progressed slowly, and at 5 a.m. on January 3rd she had a slight fit and lost consciousness ; the midwife sent for my partner, Mr. Nash. On his arrival the patient had had five severe fits, these were followed by two more. Each fit threatened to terminate fatally from prolonged spasm of the respiratory muscles ; between the fits she lay in a comatose state, breathing stertorously.

Mr. Nash injected $\frac{1}{4}$ gr. of morphia hypodermically, withdrew from the bladder some six ounces of bloody looking urine, and ruptured the membranes. The liquor amnii was a thick jelly-like fluid, obviously nearly all meconium. The os uteri was not fully dilated, but soft and easily dilatable. Chloroform was then given, and podalic version performed ; labour was, however, somewhat delayed by prolapse of the cord and extension of the arms, but was completed by the application of forceps to the after-coming head. The child was dead. The placenta followed, and there was not much bleeding. The patient continued comatose, and when the effect of the chloroform had passed off she had three more fits, making eleven fits in all.

She was then given 30 grs. of Pulv. Jalapæ Co., six dry cups were put on the loins, a mustard and linseed poultice to the same region, and she was sponged all over with hot mustard and water and enveloped in blankets. This treatment produced copious sweating. Her temperature throughout was subnormal. The bowels acted very slightly, so the doses of jalap were increased, and the cupping, sponging, and packing continued at intervals for three days. The urine was withdrawn twice daily; it contained much albumen, a few blood-corpuscles, and a large amount of hæmoglobin. Purgatives were administered daily, and on January 7th the patient passed nearly four pints of clear urine, and had partly regained consciousness.

During the next three days she was in an irritable, restless condition, constantly struggling to get out of bed,

and continuously moaning when awake ; her condition suggested the supervention of puerperal insanity. Amongst other treatment she was ordered the largest single enema that the nurse could give; in all two pints were administered, and this brought away a very large quantity of dark brown, foul-smelling fæcal matter. The nurse told me that the enema had acted like a charm, and shortly after the bowels had been emptied the patient fell into a quiet sleep and awoke perfectly rational.

The urine improved rapidly, and on January 14th there was only ·1 per cent. of albumen. It was serum albumen.

The enema was followed by urticaria and pruritus vulvæ. On January 15th, at 4 a.m, the patient had a great desire to relieve the bowels, but after fourteen hours' struggle she had to be relieved by mechanical means. The odour of the dark brown fæcal masses was most offensive. I have encountered a similar smell in a patient seven months pregnant, but it differed from other fæcal odours.

The patient rapidly recovered after the series of enemata, her bowels were kept loose with purgatives, the albumen disappeared, there was never any œdema of the legs or retinitis, and though a burn and pruritus delayed her, she was up and about the house in three weeks from the commencement of her attack.

In looking up the literature of puerperal eclampsia I have found several points to which I should like to call attention. In all I have epitomised some sixty-four cases from the journals (Obstetrical Society's 'Transactions,' the 'Lancet,' 'British Medical Journal,' 'Bristol Medico-Chirurgical Journal') and other publications, and have analysed them with the object of finding out if copræmia and auto-intoxication have any share in the causation of this disease.

The difficulty in arriving at a correct judgment comes partly from the fact that fatal cases are but seldom reported, and recoveries are generally reported to advocate the merits of some particular form of treatment. How-

ever, among the cases are a series of 35 reported by Dr. Swayne, of Bristol.

Out of these 35 cases 10 died; of these 7 had no purgative by the mouth, 3 had some purgative by the mouth; 25 recovered; of these 17 had some purgative by the mouth, 8 had no purgative, but 3 had turpentine enemata.

Or put in another way: of the 20 who were known to have had purgative by the mouth 3 died = 15 per cent.; of the 15 who were known not to have had purgative by the mouth 7 died = 48·6 per cent.

That purgatives can relieve the symptoms of eclampsia I think is shown by many of the cases I have collected; may I quote some?

Dr. Joseph Smitz * reports a case where the patient was suffering from anasarca, albuminous urine, vomiting, and fits. Dr. Smitz feared to give chloroform, pilocarpin, or morphia, so he attempted to purge and gave heroic doses of calomel, in all sixty-one grains. He says, "Thin stools began to pass, and at the same time the convulsions began to be weaker and less frequent. After twenty motions the fits ceased altogether." Dr. Smitz feared to induce labour.

On the sixth day after the cessation of the fits the patient gave birth to a macerated fœtus. There were no fits after delivery, and œdema disappeared by the sixth day.

Dr. Amand Routh † had a patient who suffered from shivering, retching, œdema of the legs, and epileptiform convulsions for four days. She was admitted to the hospital with a very foul tongue, and five sixths of albumen in the urine. She was given five grains of calomel, and some bromide. Next day she was better, œdema was less, there was no retching; a week afterwards she was relieved of most of her symptoms. The pregnant uterus was uninfluenced.

* 'Brit. Med. Journ.,' 1892, epitome.

† 'Clinical Journal,' Jan., 1899.

Amongst some cases reported by Dr. MacCallum :*

1. A patient had convulsions twenty-four hours after delivery ; a turpentine and soap enema brought away a large quantity of very offensive fæces, and the patient recovered.

2. In a case where convulsions continued forty-eight hours after delivery, calomel and a black draught were followed by very copious dark-coloured motions, highly offensive ; the patient recovered. I could add many others of purgation and recovery.

Here is a fatal case reported by Dr. Leonard Cutler :†

March 12th.—Patient had fits.

13th.—3 a.m., delivered ; 5 p.m., croton oil with results.

14th.—No more fits.

15th.—Noon, patient better ; evening, bowels not opened ; patient not so well ; Pulv. Jalapæ Co. given every four hours.

16th.—Pulv. Jalapæ Co. and enema ; no result. Ordered croton oil ; result not stated. At 12 p.m. an injection of pilocarpin ; two hours later sudden death.

Post-mortem.—Lungs œdematous ; kidneys presented an acute toxic condition.

From time to time various theories have been advanced, and I should like briefly to place them before your notice :

1. The theory that eclampsia is due to nervous irritation of the pelvic plexus appear insusceptible of proof or contradiction.

2. The Traube-Rosentein theory, which presupposes an increased blood-pressure, and an hydræmic condition of the blood, draws largely on the imagination.

3. The uræmic theory is negatived by the fact that the poison in the blood has been proved not to be urea or ammonium carbonate, and the symptoms of uræmia differ from eclampsia.

4. That the disease was dependent on albuminuria has long ago been proved incorrect. Some cases of eclampsia

* 'Obstet. Soc. Trans.,' vol. xx.

† Ibid., 1894.

have been reported where there was no albuminuria throughout the attack.

5. That eclampsia is due to pressure on the renal vessels is disproved by the fact that experimentally the disease cannot be produced by ligaturing these vessels.

6. My partner, Mr. Gifford Nash, has shown in a paper published in 1892 that pressure on the ureters and urethra is a condition which does occur in pregnant women, and Lohlein found eight out of thirty-two cases of eclampsia had their ureters dilated, but it has been proved that these conditions will not alone produce eclampsia.

Dr. Rose Bradford has shown that ligature of both ureters or removal of both kidneys produces the condition known as latent uræmia, the patient remaining conscious and in fair physical and mental condition till within a few hours of death, and this occurs some days after the ligature or excision of the kidneys.

The conditions are, therefore, only predisposing causes, not the cause itself.

Bright's disease and epilepsy are also only predisposing causes.

7. The bacillus that is from time to time reported has no authoritative position.

8. Spiegelberg's theory that eclampsia was due to retention of *all* the substances which should be excreted by the kidneys is also disproved by Dr. Rose Bradford.

9. We are, therefore, driven to the theory, which seems to be generally recognised at the present time, namely, that eclampsia is due to the retention of some toxin in the blood, and this can be demonstrated by experiments on rabbits. The toxicity of healthy human blood is to that of the eclamptic as 3 c.c. is to 5 c.c., and the toxicity of *eclamptic* urine is stated by some to be less than that of *healthy* urine; Dr. Herringham maintains that this toxicity of healthy urine depends merely on the amount of potash therein contained. I am unable to say whether eclamptic urine has much or little potash.

Our theory, therefore, implies that one of the functions

of the kidney is to neutralise or excrete certain toxins which are produced in the body, and that the accumulation of this toxin may cause both eclampsia and the renal condition found in this complaint. (That the excretion of toxins may set up albuminuria or acute nephritis we judge from what occurs in scarlet fever, diphtheria, and influenza, which are undoubtedly toxic diseases.)

Now if eclampsia is due to a toxin, this toxin may be—(i) normally present in the pregnant, or (ii) only in the eclamptic.

It is probable that the former is the case, as so many women have what may be called premonitory symptoms, for though eclampsia is stated to occur once in from 350 to 600 labours, dizziness, spots before the eyes, nausea, vomiting, albuminuria, and slight twitchings are comparatively common.

The *excess* of toxin may be due—

1. To deficient excretion.
2. To increased production.

I think the sixty-four cases I have collected show plainly that puerperal eclampsia is often associated with a condition of constipation and retention of foul-smelling fæcal matter, and further that relief of this condition will not only ward off an attack, but cure the attack when once started.

We all know what a marked influence constipation has in producing the convulsions of children and others; I have seen cases in schoolboys where single epileptiform fits resulted from constipation, and I have witnessed a case of fatal epileptoid fits where post mortem the bowels were loaded with huge masses of fæcal matter.

Further we all know the influence of constipation in producing kidney trouble and how often a few days constipation precedes, if it does not actually cause, scarlatinal nephritis.

On the other hand, if the eclampsia is produced by increased manufacture of toxins, where is this manufactory?

(*a*) My series of cases show that a dead and decomposing fœtus is not uncommon in eclampsia.

(*b*) The living fœtus produces toxins in the form of urine and meconium. Several recorded cases note the presence of meconium in the liquor amnii of the eclamptic, and Mrs. S—'s liquor amnii was a jelly-like mass of meconium, and although it is generally asserted that the fœtal kidneys are not active, or only slightly so, the presence of urea in the liquor amnii and the occurrence of congenital hydronephrosis tend to prove that the fœtal kidneys are active.

(*c*) The maternal structures may give rise to toxins, and may I suggest the possibility of the uterus itself being a source of toxin? Its muscular fibres are throughout pregnancy active, and no muscle can contract without the production of waste products and toxins.

We do not know what are the toxins of unstriped muscular tissue, but we do know that the products of excessive muscular activity will produce a toxic state.

A lad under my care at Haileybury College went for a long race of some ten miles, the last two of which were uphill and against a stiff wind. Whilst changing his clothes he passed about 1½ pints of hæmoglobinuric urine; after a rest he was perfectly well and the urine was normal. I would suggest that Mrs. S—'s hæmoglobinuria was also toxic, the result of muscular contraction.

Supposing this uterine toxin is the cause, we can readily understand why eclampsia is most common during labour, *i. e.* when the uterus is most active, and why it seldom occurs after labour.

Spiegelberg reports a case as early as the fourth month of pregnancy, but according to the same authority, when it occurs after labour it follows very speedily. In this connection I may also point out that whereas constipation is common in pregnancy, and purgatives are seldom used for fear of producing abortion, there is almost a universal custom of taking an aperient on the third day after labour.

I may add that eclampsia is very rare amongst the domesticated animals—a veterinary surgeon in very large practice told me he had never seen a case, though some thousands of confinements took place annually in his district. According to Fleming the disease has been observed most frequently in the bitch, a few possibly doubtful cases in cows, but none in mares or ewes; and whereas in cows it is not a serious malady, in the case of bitches death is the usual termination.

Zundel states that the condition is not rare amongst bitches kept in the house and well fed, in other words those which are constipated and muscle-fed.

I have tried to ascertain whether vegetarians escape this malady, but have been unsuccessful.

I can find no recorded case of hæmoglobinuria in puerperal eclampsia, but many of the urines are mentioned as being blackish green or dark brown, which is suggestive, and it is probably my fault that I cannot find records of second attacks of puerperal eclampsia, though they must be fairly common or the practice of induction of labour would never have arisen.

Professor Clifford Allbutt postulates that multiparæ are less liable than primiparæ to this attack, because the former become immunised by the small doses of toxin they repeatedly receive; if so, eclampsia should very seldom recur.

In conclusion, as to treatment, the remedies found useful are:

Chloroform, chloral, bromide, morphia, and antipyrin: drugs which lessen the cerebral sensitiveness and thereby lessen the violence of the convulsions, but are not curative as they do not remove the cause.

Diaphoretics: useful as toxin eliminators, but pilocarpin contra-indicated, as it often produces pulmonary œdema and sudden collapse.

Croton oil, hydragogue cathartics, enemata: eliminants and antiseptics.

Rapid delivery is found useful, as it probably removes the cause, but there is always danger in interfering with the uterus, and eliminants may suffice without it.

Venesection or post-partum hæmorrhage are useful forms of serumtherapy, and undoubtedly useful.

The PRESIDENT considered that the fæcal accumulation theory deserved more clinical investigation. He believed, however, that there remained some other factor more essentially connected with pregnancy. He had observed numerous cases of soft and hard abdominal and pelvic tumours complicated by fæcal accumulation both before and after operation. The scybala sometimes caused grave complications, but never, in his experience, anything like eclampsia.

OCTOBER 4TH, 1899.

ALBAN DORAN, F.R.C.S., President, in the Chair.

Present—35 Fellows and 3 visitors.

Books were presented by the American Association of Obstetricians and Gynecologists, the College of Physicians of Philadelphia, Dr. Minot, and the Medical Society of Copenhagen.

Charles H. Clayton, L.R.C.P., was admitted a Fellow of the Society.

Elgar Down, M.R.C.S., L.R.C.P. (Devonport); Thomas A. Glover, M.D. (Doncaster); George J. Maguire, M.B., B.Ch. (Richmond), were declared admitted.

The following gentlemen were elected Fellows of the Society:—Henry Russell Andrews, M.D.; William Aitken Macleod, M.B., C.M.Edin.; Francis Samuel Peck, M.R.C.S. Eng., Indian Medical Service.

FIBROID IN UNDEVELOPED CORNU OF AN UTERUS UNICORNIS: FROM A PAROUS SUBJECT.

By ALBAN DORAN, F.R.C.S.

THIS specimen, now belonging to the Museum of the Royal College of Surgeons (Pathological Series, 4647A), was from the case fully reported in the 'British Medical Journal,' June 10th, 1899, p. 1839. The periods continue regular.

[On January 4th, 1900, the patient wrote to me saying that the period had been absent three months, and she believed that she was pregnant.]

ON A CASE OF ROTATION AND IMPACTION OF A MYOMATOUS UTERUS.

By J. Bland-Sutton.

It is well known that a myomatous uterus as well as a pedunculated subserous myoma may undergo axial rotation, but it is unusual to find impaction and rotation co-existing.

In the case under consideration the patient, a married woman thirty-five years of age, was quite unaware that she had any pelvic trouble, when she was somewhat suddenly seized with pain in the lower part of the abdomen; as this continued she sought advice, and on examination a tumour was detected in connection with the uterus, which furnished the clinical signs of a myoma.

On examining the patient I could feel a hard dome-shaped tumour rising above the pelvic brim. On vaginal examination a hard, distinctly-rounded swelling could be easily made out filling the hollow of the sacrum and occupying the left half of the pelvic cavity; pressure on this provoked great pain. A smaller tumour could be outlined on the right side of the pelvis, and by means of careful bimanual efforts I satisfied myself that both tumours were connected with the uterus, and that the whole mass was impacted in the pelvis. The cervix was free. There was no complaint of interference with either the bladder or the rectum.

At the operation I found on exposing the tumour by an incision in the abdomen that the pelvis was filled by a myomatous uterus. On carefully making out its position we clearly saw the left ovary and Fallopian tube lying under the promontory of the sacrum, and the right

ovary and tube under the symphysis pubis. There was strictly no utero-vesical fossa, for the peritoneum in this situation was drawn over the tumour as a broad thick band. The mass was so firmly impacted as to give me some trouble in extracting it, but the instant it was withdrawn through the incision the parts at once righted themselves, and it was clear that the uterus had rotated through half a circle, the direction of the twist being from right to left.

In the course of the operation I found it prudent to remove both ovaries and tubes, as they were firmly bound to the uterus by thick adhesions. The hysterectomy was completed without any difficulty.

After removal the uterus was split in a sagittal direction; we could then see that myomata occupied the anterior and posterior walls. The uterus and tumours measured, in a line corresponding with the conjugate diameter of the pelvis, twenty centimetres. A large myoma in the anterior wall measured ten centimetres, and a conglomerate one in the posterior wall six centimetres in the sagittal axis. It is clear that as the uterus with its tumours measured in the sagittal (antero-posterior) axis twenty centimetres, it could not, in its normal position, occupy the conjugate axis of the pelvis, which may be estimated at eleven or twelve centimetres. My opinion is that as the tumours increased in size the slow growth of the myomata led to passive rotation of the large anterior tumour into the oblique diameter of the pelvis; this slow movement enabled it to find sufficient temporary accommodation until, increasing in the same gradual way, it slowly but surely brought about impaction, pressure, and pain.

Impaction of a myomatous uterus is a very common event; axial rotation of a myomatous uterus is an uncommon accident. Impaction as the sequence of rotation of a myomatous uterus is a condition I have not seen before, nor have I met with a description of such a complication.

A TUMOUR OF THE MESOMETRIUM WEIGHING TWENTY-TWO POUNDS.

By J. Bland-Sutton.

In spite of the elaborate paper of Mr. Alban Doran we are still in need of facts relating to primary solid tumours of the mesometrium. There is yet much confusion in regard to the three forms of large solid tumours found in this situation, and they demand careful study, for their successful removal is, as a rule, a formidable undertaking.

A woman, 43 years of age, has recently been under my care in the Middlesex Hospital with a large tumour of this kind. On admission we could get very little history, and that which she furnished seemed so unreliable that I preferred to trust to the evidence of my own senses. The patient was very thin, and had some patches of xanthelasma palpebrarum on all the eyelids. Her belly contained a peculiar almost quadrilateral tumour of large size, absolutely solid, and furnishing a loud systolic hum on auscultation. The vaginal examination did not help, as the cervix was drawn up almost out of reach of the examining finger. I had no doubt that the tumour was connected with the uterus.

At the operation the parts were thoroughly exposed by a very free incision, and a huge mass covered with a plexus of very large veins was found projecting from the pelvis. The venous plexuses were secured by transfixion with stout silk ligatures. I then gradually worked my fingers inside the capsule of the tumour and shelled it out of the pelvis. The uterine arteries were clamped and divided; the uterus, which had been elongated by the tumour, seemed to lie like a broad strap on the circumference of the tumour, was so distorted that I removed it with the right ovary and tube. I had been very care-

ful to keep the pelvic portion of the capsule intact; consequently, after tying the vessels with thin silk, its right and left wings could be easily brought together with silk ligatures. The central portion in relation with the stump of the cervix and bladder was sutured to the lower angle of the incision and lightly stuffed with sterilised gauze. The operation was a severe one, but the woman bore it well. An hour after the operation it seemed as if she was bleeding into the peritoneal cavity, and I had her anæsthetised and reopened the wound. This proved to be unnecessary. The subsequent course of the case gave no anxiety, and she left the hospital with the abdominal wound soundly healed four weeks after the operation.

The tumour is of some interest. When *rigor mortis* was well established in the tumour, the parts removed were split transversely, and it then became easy to study its relations to the uterus. The tumour itself is fairly globular, with a diameter of thirty centimetres; it occupies the left mesometrium, and has the cervix of the uterus stretched over the right side of its circumference; the body of the uterus is quite free from, but on a level with the summit of the tumour. The whole mass is hard and of equal density throughout; it weighed twenty-two pounds shortly after removal.

Microscopically it is made up of cells which at the periphery are spindle-shaped and arranged in whorls; here and there large groups of oat-shaped cells are seen, and in some places there are clear indications of secondary changes (softening).

On the whole the histologic characters are those met with in slow-growing spindle-celled sarcomata.

A critical study of tumours, usually classed as mesometric myomata, has satisfied me that many of them arise from the cervix and spread into the mesometrium. Others grow from the uterus and push their way between the layers of the mesometrium; this variety is easily recognised. Quite distinct from these is the variety to which the subject of this communication belongs. It is roughly

globular, easily shelled out of its capsule, yellowish-white on section, and distinct from the uterus. Histologically it approaches rather to a spindle-celled sarcoma than to a myoma or a fibro-myoma.

It is a fact worth mentioning and well worth bearing in mind that tumours of this kind resembling a football in shape and dimensions, and with the same histologic characters, occur in other retro-peritoneal situations. I made a careful study of one from a woman of seventy. She was in St. Mary's Hospital, and at the operation it was deemed inexpedient to attempt its removal. When the patient died the tumour was found to spring from the retro-peritoneal tissue below the liver and unconnected with any viscus.

A similar globular tumour of this kind is preserved in the museum of the Royal College of Surgeons; it was removed by Mr. Pearce Gould from the abdomen of a man. The tumour occupied the neighbourhood of the lesser bag of the peritoneum.

These retro-peritoneal tumours form a group with very distinct features; they grow slowly, are invariably globular, and attain a great size. Histologically they conform to the type of very slow-growing spindle-celled sarcomata.

A MYOMATOUS UTERUS WEIGHING TWENTY-SIX POUNDS SUCCESSFULLY REMOVED FROM A WOMAN SEVENTY-FOUR YEARS OF AGE.

By J. Bland-Sutton.

The subject of this note is a woman who, according to the record in the "family Bible," was born in the City Road, Islington, September 11th, 1825. She was

admitted into the Middlesex Hospital on September 1st, 1899, in her seventy-fourth year, on account of some large and hard tumours which, though painless, were so cumbersome that she became bedridden. The existence of the tumours was recognised in 1871.

On admission two distinct very hard masses could be felt through the abdominal wall, which had become so prominent and pendulous that when the woman was in bed she required two sets of pillows, one set for her head and the other for her belly to rest upon. On vaginal examination nothing of importance could be detected, and the cervix was drawn up almost out of reach. The heart's action was slightly intermittent, otherwise she seemed a very healthy individual.

After careful consideration I decided to incise the abdominal wall in order to ascertain if the tumour could be removed with a fair chance of success. On September 6th this was done, and I found the tumours to be large, partially calcified uterine myomata. The omentum adhered in many places to the tumours, but the bowels were free, and the elongated cervix rendered the operation comparatively simple. To shorten the time of the operation my colleague, Mr. John Murray, ligatured the omentum whilst I secured the ovarian and uterine vessels. The operation, which occupied forty minutes, may be described as almost bloodless, and the patient returned to bed in excellent condition. The subsequent course of the case calls for no comment; it was as uneventful as a simple ovariotomy, and the patient left the hospital convalescent on September 29th, that is, twenty-three days after the operation.

The tumour consists of a number of partially pedunculated and calcified myomata: the parts removed weighed 26 lbs. This is, as far as my knowledge goes, the oldest patient who has been subjected to so severe an operation as hysterectomy. Her rapid convalescence is only another example of the excellent recuperative power even very aged individuals sometimes display, and which

enables them to pass through some of the gravest operations in surgery.

The PRESIDENT remarked that true rotation had occurred in the first case. Often "rotation" was an optical illusion due to distension of the cornua uteri by the growth of large interstitial myomata behind or in front of them. As to the histological elements of the broad ligament, especially its muscular tissue, the researches of Rouget and Waldeyer deserved consideration. Myomata independent of the uterus from the first, certainly developed in the mesometrium; primary sarcoma had also been observed. Mr. Bland-Sutton was to be congratulated on the third case. As in his own, life was probably saved by careful hæmostasis during the operation. In that case (the President's, the subject of the paper read at the May meeting this spring) the patient was now well and strong, just a year after the operation, and so it would probably be a year hence with Mr. Sutton's patient. The peril of shock was great after the removal of these colossal tumours, but that danger passed there were no cases that did better.

Mr. BLAND-SUTTON, in reply, stated that he had removed a true myoma from between the layers of the broad ligament unconnected with the uterus or its round ligament. He had satisfied himself some years ago that a stratum of unstriped muscle-fibre existed in the broad ligament, and was directly continuous with the superficial stratum of the muscle-tissue of the uterus. The muscle-fibre of the broad ligament was often exceptionally developed when a parovarian cyst occupied the mesometrium.

A LARGE PENDULOUS UTERINE TUMOUR.

Shown by Dr. ROBERT WISE.

DR. ROBERT WISE showed a photograph of a very stout single woman aged 49, with a large pendulous uterine tumour of ten years' growth, and with a lipoma about the size of a melon below the right breast.

The vagina of this patient is peculiar, being short and cone-shaped, an aperture existing at the apex of the cone from which a brownish-red discharge exudes.

THE PATHOLOGY AND SYMPTOMS OF HYDATIDIFORM DEGENERATION OF THE CHORION.

By Herbert Williamson, M.A., M.B.Cantab., M.R.C.S., L.R.C.P.

(Received May 8th, 1899.)

Abstract.

The author reviews briefly the earlier views of the pathology of the condition.

He then describes the development of the chorionic villi, and the changes which occur in them when undergoing myxomatous degeneration, the changes as observed by himself agreeing almost entirely with those previously described by other observers.

The "myxoma fibrosum" of Virchow is described, and the author gives his reasons for regarding this condition as closely allied to hydatidiform mole.

The question of the priority of the degeneration of the chorion or the death of the embryo is discussed, and the conclusion arrived at that degeneration of the chorion usually precedes the death of the embryo.

The relation of hydatid moles and deciduoma malignum is discussed.

The author gives reasons for doubting the doctrine of Spiegelberg with regard to the fœtal origin of the hydatidiform disease, and quotes cases of repeated hydatidiform molar pregnancies occurring in the same woman. The usual naked-eye appearances of the mole are described.

The author then endeavours to ascertain (1) the frequency of the occurrence of the condition, and (2) the effects of (*a*) age, (*b*) multiparity, (*c*) rapid child-bearing upon its production; concluding that—

(1) Its approximate frequency may be once in 2400 pregnancies.

(2) That hydatidiform pregnancy may occur at any time during the child-bearing period, the age of the woman having very little influence.

(3) That the condition is more frequent in those who have borne few children than in those who have borne many.

(4) That it is not the rule for previous pregnancies to have followed upon one another with great rapidity.

An inquiry is then made into the presence or absence of the usual signs and symptoms of normal pregnancy under the following heads:—(1) Amenorrhœa; (2) Vomiting; (3) Activity of breasts; (4) Blue coloration of vaginal mucous membrane; (5) Softening of cervix; (6) Uterine tumour; (7) Uterine souffle and fœtal heart-sounds.

The conclusion is that all these symptoms and signs are usually present excepting the uterine souffle and fœtal heart-sounds, but sometimes these may be heard; whilst, on the other hand, the only sign which is constantly present is enlargement of the uterus.

The distinguishing features of the condition are then described under the following heads:

1. The size and other physical characters of the uterus.

Two classes of cases are shown to exist: (1) those in which the uterus is larger than would be expected from the probable duration of the pregnancy; (2) those in which the uterus is smaller. Another feature sometimes present, and of importance, is uterine tenderness.

2. Vaginal discharges, with or without the cysts.

3. Hæmorrhage.

The author then discusses the diagnosis, the conditions likely to be mistaken for hydatidiform mole being—

(1) Concealed accidental hæmorrhage and placenta prævia.

(2) The discharge of a pelvic hydatid through the vagina.

(3) Hydramnion, especially if combined with hydrorrhœa gravidarum.

Cases in which difficulty has arisen are recorded.

The complications met with are described.

1. Albuminuria, a frequent complication. Two forms are to

be distinguished: (*a*) One form in which the prognosis is good, in which blood and epithelial casts are not present in the urine. (*b*) One form in which the prognosis is bad, and in which these structures are found in the urine.

2. Hæmorrhage, seldom fatal in itself.

3. Sepsis; sapræmia, septicæmia, and pyæmia, all being frequent complications.

Prognosis.—The mortality of the whole twenty-five cases was 20 per cent. The mortality of the ten consecutive cases from St. Bartholomew's Hospital was 30 per cent.

Whilst acting as resident obstetric assistant at St. Bartholomew's Hospital I had under my care a case of hydatidiform mole.

The rarity of the condition and the difficulty of diagnosis in the particular case led me to investigate the symptoms in such other cases as I could collect from the hospital notes and from the published literature of the subject.

I found that (although much had been written on individual symptoms, and much controversy had taken place on certain points in the pathology) the disease, as a whole, received scanty treatment in most of the recognised text-books.

I have endeavoured in this paper to review the chief theories which have been held with regard to the pathology, and to investigate the symptoms afresh, taking as the basis for my deductions twenty-five cases which I have collected, partly from the hospital records and partly from cases which have been published from time to time in the medical journals.

TABL

No. of case.	Age.	Previous pregnancies.	Previous hydatid pregnancies.	Miscarriages.	Suckling at time of impregnation.	Supposed duration of pregnancy.	Menstruation.	Vomiting.	Activity of breasts.	Softening of cervix and blue coloration of vagina.	F h
1	24	1	0	0	Yes	?	None during pregnancy	None	Complete	Absent	h
2	23	1	0	0	Yes	9 mos.	None during pregnancy	Usual	Complete	Present	H
3	32	4	0	0	Yes	?	Hæmorrhages, ? menstrual	?	Partial	?	h
4	35	2	0	0	?	9 mos.	None during pregnancy	Usual	Complete	?	h
5	33	4	1	0	?	7 mos.	None during pregnancy	Usual	Complete	Present	H
6	36	5	0	1	No	6 mos.	None during pregnancy	?	?	?	h
7	24	1	0	0	No	3 mos.	None during pregnancy	Usual	None	Present	h
8	42	11	0	3	?	? 4 mos.	None during pregnancy	Usual	None	?	h
9	45	8	0	0	No	2 mos.	None during pregnancy	Usual	Complete	Present	h

ne e.	Watery discharge.	Characters of uterus.	Size of uterus compared with probable duration of pregnancy.	Hæmorrhage.	Albumen.	Complications.	Result.
d	Watery, blood-stained discharge for two days previous to labour	Soft and fluctuating	?	Slight for a few days before labour	None	None	R.
rd	None	Presented nothing unusual	Normal size	None	None	None	R.
	None	Tender	?	Slight during earlier months; more severe later	None	None	R.
d	Blood-stained discharge for some weeks; later vesicles passed	?	Normal size	Slight during later weeks	None	None	R.
rd	None	Presented nothing abnormal	Normal size	None till labour	None	None	R.
d	None	Soft	?	None till labour	½	Œdema	R.
rd	None	Fluctuating	Larger than normal size	Very severe	Large quantity	Œdema, uræmia, hæmorrhage	Died from uræmia and hæmorhage.
	?	Soft and fluctuating, tender	Fundus 2 inches above umbilicus	Slight; increasing later	½	Œdema, uræmia	Died of uræmia.
d	Watery discharge, lasting whole of pregnancy	?	Fundus 2 inches above pubes	Slight during later weeks	None	None	R.

No. of case.	Age.	Previous pregnancies.	Previous hydatid pregnancies.	Miscarriages.	Suckling at time of impregnation.	Supposed duration of pregnancy.	Menstruation.	Vomiting.	Activity of breasts.	Softening of cervix and blue coloration of vagina.	Fo he
10	30	0	0	0	No	4 mos.	None during pregnancy	Severe	Partial	Present	N he
11	34	1	0	0	No	4 mos.	None during pregnancy	Usual	?	?	N he
12	51	10	0	0	No	5 mos.	Hæmorrhage every month at time of expected period	?	?	?	N he
13	39	8	0	0	Yes	9 mos.	None during pregnancy	None	?	Absent	N he
14	42	Several	0	?	?	4 mos.	None during pregnancy	?	?	?	N he
15	23	2	1	1	No	2 mos.	None during pregnancy	Severe	Complete	Present	N he
16	18	1	0	0	Yes	6 mos.	None during pregnancy	Usual	Partial	Present	N he
17	27	2	0	0	?	?	Hæmorrhages ? menstrual	Usual	Complete	?	N he

Watery discharge.	Characters of uterus.	Size of uterus compared with probable duration of pregnancy.	Hæmorrhage.	Albumen.	Complications.	Result.
None	Soft and fluctuating	Fundus 2 inches above umbilicus	None till labour	Large quantity	Œdema	R.
Pale discharge during last month	Hard and irregular on surface; tender	Smaller than it should have been	None till labour	None	None	R.
None	?	?	Slight hæmorrhages at periods of about 28 days	None	None	R.
Slight blood-stained discharge during earlier months	"Soft and boggy"	?	Slight during earlier months	None	None	R.
None	Soft and fluctuating	Size of 6 months' uterus	Very severe	None	Profuse hæmorrhage; diagnosis of placenta prævia	R.
None	Soft and fluctuating; very tender on manipulation	Size of 4 months' uterus	Frequent small hæmorrhages; also concealed hæmorrhages	None	None	R.
Slight blood-stained discharge during later weeks	Uterus tender	?	Slight during later weeks	None	Parametritis; sloughing of uterus	Died; sloughing condition of uterus, probably malignant disease.
None	?	"Enlarged"	Slight for first 2 months; ? menstrual	None	Septicæmia	Died; septicæmia.

No. of case.	Age.	Previous pregnancies.	Previous hydatid pregnancies.	Miscarriages.	Suckling at time of impregnation.	Supposed duration of pregnancy.	Menstruation.	Vomiting.	Activity of breasts.	Softening of cervix and blue coloration of vagina.	F h
18	24	4	0	0	No	6 mos.	None during pregnancy	?	Partial	?	N h
19	27	1	0	0	No	11 mos.	None during pregnancy	Severe	None	?	N h
20	44	15	0	8	No	6 mos.	None during pregnancy	None	None	Absent	N h
21	18	0	0	0	?	4 mos.	None during pregnancy	Severe	Complete	Present	N h
22	22	2	0	0	?	3 mos.	Hæmorrhages, ? menstrual	Usual	Partial	Present	h
23	22	1	0	0	No	5 mos.	Hæmorrhages, ? menstrual	?	Complete	?	h
24	33	0	0	0	No	4 mos.	None during pregnancy	None	?	?	h
25	41	14	0	2	?	3 mos.	None during pregnancy	?	?	Present	h

Watery discharge.	Characters of uterus.	Size of uterus compared with probable duration of pregnancy.	Hæmorrhage.	Albumen.	Complications.	Result.
?	Hard, non-fluctuating, tender	Did not reach to umbilicus	Slight, "on and off"	None	None	R.
None	Soft and fluctuating	?	Slight	None	None	R.
None	?	?	Slight bleeding for a few days before delivery	None	None	R.
None	Hard and irregular on surface	Small; fundus just below umbilicus	None till labour	⅔ chiefly serum albumen, partly serum globulin	Œdema	R.
None	Soft and fluctuating	Uterus reached to costal arch	Slight during earlier months; ? menstrual	½ chiefly serum albumen, trace of serum globulin	Œdema	R.
None	?	"Larger than it should have been"	Slight during earlier months; more severe later	None	Sapræmia	R.
Blood-stained discharge during last month	Harder than usual	Fundus 2 inches above pubes	Slight for last month	None	Pyæmia, with large abscess in ovary	Died of pyæmia.
None	Soft and fluctuating	Uterus reached to costal arch	Severe for 3 days before treatment	None	None	R.

Pathology.

The writers who earliest describe this disease would appear to be Ruysch and Morgagni; they regarded the hydatid-like bodies as identical with the cysts of echinococcus. This view was opposed by Cruveilhier, who demonstrated the absence of hooklets and the curious mode of attachment to one another which the cysts exhibited. Further investigation led him to the conclusion that he was dealing with an entirely different condition, and that the cysts were formed as the result of transformation of the blood-vessels of the placenta.

The next important advance is found in a paper by Gierse,* published in 1847, in which the cysts are stated to be caused by "hypertrophy of the natural structures of the chorionic villi with secondary œdema."

In 1850 Mettenheimer published a paper in 'Müller's Archives,' in which he proposed the proliferating cystic theory, according to which the cysts are not merely the result of degeneration or transformation of pre-existing structures, but belong to the class which we now designate cysts of new formation.

This view was adopted by Paget† and by Barnes‡ (who regarded the mode of attachment of cyst to cyst as evidence of reproduction by a process of budding) and for a time was generally adopted, until in 1865 Braxton Hicks,§ after a careful research, vindicated the claims of the transformation theory. He says:

"The appearance of cyst after cyst upon the same string-like cord may perhaps tend to favour the idea that the cysts have grown successively in point of time from one another, but a moderately careful examination will show that not only the clavate extremities of the villi are changed, but frequent portions of the stems also; the

* 'Verhandl. der Gesellschaft für Geburtshülfe,' Berlin, 1847, p. 126.

† 'Surgical Pathology,' vol. ii, p. 62, *et seq.*

‡ 'British and Foreign Med.-Chir Review,' January 18th, 1855.

§ 'Guy's Hospital Reports,' Series 3, vol. xi, p. 181.

simultaneous growth and expansion of all these myriads of parts sufficiently accounts for the magnitude of the mass without requiring the aid of additional growths."

Since the publication of this paper, the views expressed therein have become almost universally adopted.

The study of the embryology of the false amnion or chorion* shows that it is developed partly from epiblast and partly from mesoblast. At the time the chorionic villi are first discoverable the cells of these two layers have undergone very little change from their earliest condition, the chorion consisting simply of epiblast upon its outer and mesoblast upon its inner or amniotic surface. The villi appear as protrusions, and thus consist of a core of mesoblast completely surrounded by a layer of epiblast.

If a fully-developed villus be examined in section it will be found to consist of an outer and an inner portion —an outer layer of epithelium-like cells † surrounding an inner core of capillary blood-vessels, embedded in a jelly-like connective tissue, consisting of cells and cell processes. It is the inner mesoblastic core alone which undergoes the myxomatous changes leading to the production of the vesicular mole.

The process of growth can be well seen by examining under a low power of the microscope some of the villi from the shaggy chorion of an early ovum, at a period before the formation of the placenta has taken place. Numerous bud-like processes are seen springing from the ends and sides of the villi, some of these processes being mere bud-like projections, others of considerable size and approximating more and more to the adult condition. By this process of gemmation and ramification the fœtal part of the placenta is formed. Subsequently the villi become vascularised with vessels brought by the allantois, and

* 'Quain's Anatomy,' vol. i, part 1 (Schäfer); 'Minot's Embryology;' Eden, 'Journal Path. and Bacteriology,' 1896; Robert Barnes, 'Brit. and Foreign Med.-Chir. Rev.,' 1855.

† According to some observers this cell-layer has upon its uterine aspect an enclosing layer of multi-nucleated protoplasm undifferentiated into cells.

under normal conditions no further development takes place. Sometimes, however, the process does not stop here, but further changes occur, perhaps as the result of alterations in the blood-supply, perhaps independently of this.

The earliest change which has been described in myxomatous degeneration of the villi consists in a great increase of the connective-tissue cells, probably from rapid proliferation of those already existing; some of these new cells are seen to be branched, others at first are round or oval. Seen at a later stage the cells are separated from one another by clear fluid, the branching processes of neighbouring cells uniting so as to form a network of spaces, in which the fluid lies.

By-and-by, in certain parts of the villus the cells disappear, in some cases, according to some observers, by a process of fatty degeneration, but chiefly by further myxomatous change. By this means the various small collections of fluid coalesce, and a single cyst is formed, bounded by a wall which consists of an inner mesoblastic membrane, and external to this one or two layers of epithelial-like cells. These processes do not go on equally in all parts of the villus, but occur here and there throughout its length, so that a number of cysts connected with each other by intervening narrow stalks ultimately take the place of the original structure, and by these changes occurring in numbers of villi at the same time the grape-like masses of cysts are eventually formed.

There is another and much rarer condition, described originally by Virchow,* and named by him myxoma fibrosum, which is sometimes found in connection with the process above described. In some few instances it appears that after the cell proliferation has taken place, these new cells, instead of undergoing myxomatous, undergo a fibrous degeneration. There are two specimens of this condition in St. Bartholomew's Hospital Museum (Nos. 3043 A and B), and, as far as I am aware, no other specimens exist in this country. The first specimen has

* Virchow, 'Die Krankhaften Geschwülste,' 1, S. 415.

been carefully examined by Dr. W. S. A. Griffith, who thus describes it :*

"The specimen is a kidney-shaped mass 8 inches long, which had the appearance when fresh of a mixed fleshy and hydatid mole. It consists almost entirely of chorion. The amnion is compressed inside the mass, measuring 4 inches in length. No remains of fœtus or cord are visible. It is covered by a thin layer of decidua and partly by blood-clot, which has penetrated deeply between the bundles of chorionic stems. The stems are branched and appear as bundles of solid, interlacing rods, which vary in thickness between $\frac{1}{16}$ and $\frac{3}{16}$ of an inch. The rods are not uniformly enlarged along their whole length, but vary in different parts. The thickening of the stems is due to an increase in the usual myxomatous core tissue. All the rods examined are devoid of blood-vessels, the exochorionic epithelium has in places disappeared, but in general appears to be normal. In some parts cystic degeneration has occurred, but the cysts are not numerous."

Dr. Griffith adds : "The conjunction in this specimen of very partial cystic degeneration with hyperplasia is of interest, but the hyperplasia, from its extreme rarity, cannot be considered as having any necessary relation to the more common cystic myxoma of the chorion."

This conclusion I am unable to agree with for the following reasons : (1) The microscopic changes described by Dr. Griffith are identical with those found in the cystic degeneration of the chorion at certain stages. (2) The distribution of the changes, not throughout the whole of the villus, but here and there in its length, is the same in both. (3) The two conditions are found in the same chorion as in Dr. Griffith's specimen.

I cannot but regard myxoma fibrosum and myxomatous cystic degeneration as intimately allied to one another, if not even as two stages of the same disease. Why in the one case the hyperplasia should undergo further

* 'Obst. Soc. Trans.,' vol. xxx, p. 82.

myxomatous change, and in the other case the process should become arrested, or even fibrous changes occur, remains unexplained.

The question as to whether the death of the embryo is to be regarded as the cause or consequence of the cystic degeneration is one which has been hotly debated.*

Barnes ('Brit. and For. Med.-Chir. Review,' January 18th, 1855) enunciated the doctrine that it is the degeneration of the chorion which leads to the death of the embryo.

Graily Hewitt ('Obst. Soc. Trans.,' vol. i, p. 247) adopted the opposite view, and holds that the death of the embryo occurs first, and that the degeneration of the chorion follows as a direct consequence of this. In favour of Hewitt's view it may be said, that when the embryo has perished the function of the villi becomes lost and, following the analogy of other structures of the body, loss of function is followed by degeneration; but it must be understood that here we are dealing with a form of degeneration which is not commonly found under similar conditions.

Death of the embryo, moreover, before the formation of the true placenta is a common occurrence, hydatidiform mole is rare, and in those cases of blighted ovum which I have examined, even after their retention in the uterus for considerable periods, I have never found the least trace of anything like cystic degeneration. It still remains to explain, then, why in ninety-nine cases these conditions do not lead to cyst-formation, and in the hundredth they do.

But besides this negative evidence we have discussed, positive proof can be adduced in favour of Barnes' view.

Many cases have been recorded in which portions of the placenta have shown hydatid degeneration, and still a living child has been born at full term; there is one

* Virchow, 'Die Krankhaften Geschwülste,' 1, S. 415.
Priestley, 'Lumleian Lectures,' 1887, p. 154.
Sinclair, 'Journal of Gynæcological Soc. of Boston,' v, p. 338.

such instance in my own series of cases. These instances must be received with caution and carefully examined. Before they can be admitted as evidence it is necessary that we should satisfy ourselves that the hydatidiform bodies are portions of the same ovum to which the embryo belongs. For instance, take a case recorded by Michal in 'Beale's Archives,' vol. iv, p. 320, where the placenta and membrane are described as normal and "three and a half inches from the placenta was a patch of hydatid-like bodies varying in size from a hemp-seed to a nut." This was probably the degenerated remains of a second ovum.

The first case of which I can find a record, in which a full-term placenta showed evidence of partial myxomatous degeneration, is one reported by Dr. Hunter, of Margate, in the 'Lancet,' vol. i, p. 430. The history given is:

"Mrs. B—, aged 23, was in labour with her second child at full term, the presentation was by the vertex; the child was born naturally. When the hand was introduced into the uterine cavity to remove the placenta, the uterus was found to be distended by what afterwards proved to be hydatids measuring about three pints; when the placenta was detached it was found to be lobulated and of the usual size; the hydatids were attached to it as well as to the uterus."

Virchow's first case of myxoma fibrosum belonged to this class, other cases have been recorded by Hildebrandt,* Davis † and Pepper.‡

It has been stated by Montgomery and others that pieces of retained chorion possessing villi may undergo this change; in support of this statement, however, I have not been able to find a single authenticated case. It has also been stated that retained hydatid moles may become the seat of the disease known as deciduoma malignum.

That hydatid moles ever became the seat of this disease

* 'Monatsschrift f. Geb.,' xviii.

† 'Obst. Soc. Trans.,' vol. iii.

‡ 'American Journal of Obstet.,' vol. iv, p. 735.

is no longer believed by most pathologists, who have come to regard deciduoma malignum as a rapidly growing sarcoma of the uterus. But that some close relation exists between the two conditions can scarcely be denied. Hart and Barbour * have succeeded in collecting fifty-five cases of deciduoma malignum, and of these twenty-four followed upon a hydatid pregnancy. This must be regarded as more than a coincidence. What the relation is we do not know. It may be that some at present totally unknown condition of the uterus has predisposed to both diseases, or that a pre-existing sarcomatous condition of the uterus has had some influence in the production of the mole.

It is difficult to say whether the disease must be regarded as fœtal or maternal. It originates in fœtal structures, and no disease of the uterine wall has yet been demonstrated in these cases. On the other hand, hydatid moles sometimes occur more than once in the same woman. My own patient had had three pregnancies —the first a hydatid mole, the second a carneous mole, and the third, again, a hydatid mole. Major† has recorded the case of a woman who eleven times bore a hydatid mole in addition to a well-formed fœtus; and Depaul‡ records an instance of three molar pregnancies following upon one another. It is difficult to understand these cases if the disease be entirely fœtal.

Spiegelberg § believes the explanation must be sought in an anomalous development of the allantois, and states that vesicular structures have been observed in the umbilical cord. I have found no instance of this, unless a specimen in St. Bartholomew's Hospital Museum, showing cyst development in the umbilical cord, may be regarded in this light. The specimen was presented by Dr. Clement Godson, and was thus described by him: ||

(*x*) * 'Gynæcology,' 1897.
† 'Wurtemberger Med. Corrblatt.,' No. 38, 1847.
‡ 'Clin. Obst.,' i, 1872, p. 280.
§ 'Midwifery,' vol. i, p. 4561 (Syd. Soc.'s translation).
|| 'Obst. Soc. Trans.,' vol. xxiii, p. 180.

"Wharton's jelly is in excess, and is occupied by large cysts, crossed by trabeculæ and filled by clear transparent viscid fluid, which readily flows out. The cysts do not communicate."

This may be regarded as a case of cystic transformation dependent upon an anomalous development of the allantois, but it is not easy to see a close connection between this condition and hydatidiform mole. There is no mention of the presence of mucin in the fluid of the cysts, nor is the chorion mentioned as exhibiting any abnormal characteristics.

That the myxomatous change usually occurs at an early stage in the history of the embryo is evidenced by the fact that in most of the specimens which I have been able to examine the cyst-like bodies were not confined to the placental site, but distributed over the entire surface of the chorion; and in these cases, although remains of the umbilical cord were not infrequently present, it was unusual to find any other traces of the embryo. Thus in the eight specimens preserved in St. Bartholomew's Hospital Museum, in only one case can a fœtus be seen.

But although usually commencing early, sometimes the change does not occur until the placental site is well differentiated, and if the degeneration be partial the embryo may develop normally and be born at full term; or, on the other hand, it may perish and be expelled at any time during the period of gestation.

The size which the individual cysts attain varies within wide limits; often they are no larger than a pin's head, but not infrequently attain the size of a small cherry, and in one specimen which I have examined (St. Bartholomew's Hospital Museum, No. 3042A) the largest cysts measure three quarters of an inch in length.

The decidua is thickened in nearly every case, and sometimes this structure connects the cysts firmly with the uterine wall. In other cases the relation is even more intimate, so that attempts at removal are attended with

grave danger; the villi are found to have invaded the blood-spaces of the decidua serotina, and through these to have passed into the uterine wall, sometimes penetrating this structure as far as the peritoneal coat. Fatal cases of this kind have been recorded by Volkmann, Waldeyer, Krieger, and Wilton.* Two of these cases proved fatal from hæmorrhage, and two from peritonitis following perforation of the uterine wall. Closely connected with these is a case which occurred at St. Bartholomew's Hospital, in which sloughing of the uterus followed removal of a hydatid mole. This case will be referred to again later.

Frequency.—Hydatidiform mole is a rare disease, but it is extremely difficult to estimate in what proportion of pregnancies it occurs; the only statement of frequency which I have discovered gives the probable estimate as one case in 20,000.†

In hospital practice it would appear to be met with more frequently than this.

In the various departments of the gynæcological work at St. Bartholomew's Hospital during the eight years from 1890 until the present time, as nearly as can be estimated 24,500 cases of pregnancy have come under observation; amongst the cases there were ten instances of vesicular mole. This gives the proportion of one case of the disease in 2400 pregnancies nearly. But whether this result gives the proportion with anything like accuracy I am quite unable to say.

Age.—Spiegelberg‡ states that an advanced time of life appears to act as a predisposing agent in the production of the condition. This statement has been generally copied into recent text-books, and is supported by the statistics of Bloch,§ who based his deductions upon an examination of twenty-eight cases.

* Spiegelberg, 'Midwifery,' vol. i, p. 454.

† Norris and Dickenson, 'Text-book of Obstetrics,' vol. i, p. 254.

‡ 'Midwifery,' vol. i, p. 456.

§ Quoted by Spiegelberg, 'Midwifery,' vol. i, p. 456.

In the twenty-five cases I have collected I can find no constant age relation—as the subjoined table shows.

Between the age of	17	and	20	there occurred	2	cases.
,,	,,	20	,,	25	,,	7	,,
,,	,,	25	,,	30	,,	3	,,
,,	,,	30	,,	35	,,	4	,,
,,	,,	35	,,	40	,,	3	,,
,,	,,	40	,,	45	,,	5	,,
,,	,,	45	,,	50	,,	0	,,
,,	,,	50	,,	51	,,	1	case.

Here the greatest number of cases occurred between the ages of twenty and twenty-five, though the second most fruitful period was forty to forty-five. The youngest patient was seventeen years of age, and the oldest fifty-one.

The only deduction to be drawn is that hydatidiform mole may occur at any time during the child-bearing period, the age of the woman having very little influence.

Multiparity.—Under this heading three statements are made by Spiegelberg and others.

1. The condition is rare in primiparæ.
2. It is favoured by rapidly recurring pregnancies.
3. It is favoured by multiparity.

Out of my twenty-five cases, 3 (*i. e.* 12 per cent.) occurred in primiparæ. It is true that more than 12 per cent. of all pregnant women are primiparæ, but the disproportion is not sufficiently marked to support the first dictum. Nor do I find as a rule, that previous pregnancies had followed upon one another with great rapidity.

In twelve of the cases the number of years the patient had been married was stated, and in these the average was one pregnancy in every 2·2 years of married life. It is interesting to notice that in five of the cases impregnation took place whilst the mother was still suckling, in twelve of the cases the breasts were inactive, and in eight of the cases I could not ascertain whether lactation was in progress or not. It may be that the condition of

suckling at the time of impregnation has some influence upon the production of the myxomatous degeneration, but the relation is not sufficiently constant to allow of any deduction. But, however that may be, the statement that the disease usually occurs after rapidly repeated pregnancies is not borne out.

The third statement, namely, that the condition is commonest in women who have given birth to many children, is even more markedly contradicted.

3	cases	occurred	in primiparæ.	
7	,,	women who had borne	1	child.
4	,,	,, ,,	2	children.
3	,,	,, ,,	4	,,
1	,,	,, ,,	5	,,
2	,,	,, ,,	8	,,
1	,,	,, ,,	10	,,
1	,,	,, ,,	11	,,
1	,,	,, ,,	14	,,
1	,,	,, ,,	15	,,
1	,,	,, ,,	several	,,

If any deduction is to be drawn from this it must be that the condition is commoner in women who have borne few children than in those who have borne many.

Nor had these patients been unusually liable to miscarriages in their previous pregnancies; thus out of the twenty-five patients only six had previously miscarried.

Symptoms.—Let us first inquire into the presence or absence of the symptoms of normal pregnancy.

We will consider them in the following order:

1. Amenorrhœa.
2. Vomiting.
3. Activity of breasts.
4. Blue coloration of vaginal mucous membrane.
5. Softening of cervix.
6. Uterine tumour.
7. Uterine souffle and fœtal heart.

Amenorrhœa.—In the majority of cases this symptom was present, and the patient believed herself pregnant.

In one, a woman aged fifty-one, a discharge of blood is stated to have occurred every month at the time of the expected period; in a second case after missing one period the patient menstruated regularly, according to her own account, for five months before the mole was expelled; and in four cases irregular hæmorrhages occurred which the patient did not know whether to regard as menstrual or not.

There seems to be good reason for believing that even in otherwise normal pregnancy it is possible * for menstruation to occur in the earlier months, and the two cases cited may belong to this category.

Vomiting.—In ten of my cases there was the usual morning vomiting of pregnancy. In four cases there was no vomiting at all. In four cases the vomiting was excessive and prolonged, in two of these so severe as to confine the patient to bed. In seven cases no statement is made.

Activity of breasts.—Nine cases showed signs of complete activity, *i. e.* the breasts were enlarged and had the characteristic knotty feel—the veins were prominent, and secretion could be expressed—in each of the three primiparæ a secondary areola was seen. Five cases showed signs of activity, but with no secretion. Four were definitely stated to show no signs of activity, and in seven no statement was made.

Blue coloration of vaginal mucous membrane, and softening of the cervix.—In ten cases these conditions are described as being present. In three they are definitely stated not to be present. And in twelve no mention of them is made.

Sounds heard over the Uterus.

1. *Fœtal heart.*—This was heard in two cases, in one a child was born at full term and afterwards a twin placenta which had undergone cystic degeneration was expelled.

* Spiegelberg, 'Midwifery,' vol. i, p. 507.

In the other case labour was induced during the eighth month for hæmorrhage, the child was born alive and the placenta was found to have undergone cystic degeneration in one or two cotyledons.

2. *Uterine souffle.*—In the twenty-five cases this was heard four times; in two of these cases the degeneration was only of a comparatively small area of the placenta. In the other two the degeneration seems to have been complete. In one of these two cases a souffle was only heard once; in the other case, which was complicated by albuminuria, there can be no doubt of its presence. In fourteen cases, although auscultation was practised no sound could be heard.

Enlargement of the uterus.—This was present in every case. The statistics show that all the signs of normal pregnancy are usually found, except that it is rare to hear either the fœtal heart or a uterine souffle; but these are sometimes present, whilst, on the other hand, the only symptom which is constantly present is enlargement of the uterus.

Distinguishing Symptoms of the Hydatidiform Mole.

There are three symptoms, none of them constantly present, which distinguish the condition:

1. Enlargement of the uterus, which may be greater or less than the size which corresponds with the probable duration of the pregnancy.

2. The presence of a watery blood-stained discharge occasionally containing the hydatidiform vesicles.

3. *Hæmorrhage.*

In addition to these we may add a fourth, which sometimes helps in diagnosis; it is that the shape and consistence of the uterus often differ from those of normal pregnancy, and sometimes tenderness over the uterine tumour is a marked symptom.

The size and physical character of the uterus.—In only thirteen of my cases have all the details been

given, which are necessary for the investigation of this symptom.

These are (1) the duration of the pregnancy; (2) the size of the uterus; (3) its other physical characters.

It will be advisable to divide the cases into two main classes: (*a*) Those in which the uterus is larger than would be expected from the period of gestation; (*b*) Those in which the size of the uterus corresponds with the period of gestation, or is even smaller.

These cases came under observation at periods varying from two to eleven months after conception. In six instances the enlargement was greater than normal, in three it was the usual size, and in four it was smaller than it should have been.

The greatest enlargement of all was in two cases of three months' pregnancy, in which the tumour extended to the costal arch. In two cases of four months' pregnancy it reached to two inches above the umbilicus.

In a two months' pregnancy it could be felt two inches above the pubes, and in a third case of a four months' pregnancy it is described as "the size of a sixth month uterus."

In the other class of case the growth of the mole would seem by some means to have become arrested; hæmorrhages had in most cases occurred during the pregnancy, and old blood-clot was found in the uterus. It is interesting to note that in two out of the three cases where the uterus is described as of normal size a fœtus was present, and the myxomatous degeneration was confined to small portions of the chorion.

Physical characters of the uterus.—Leishman * states that the uterus in these cases is unusually hard and dense, and the surface of the tumour irregular. This is so in some cases, but not in all, nor indeed in the majority; in nearly all of my cases in which the uterus was much enlarged, the tumour is described as "soft, fluctuating and elastic." In four cases, in all of which

* 'Midwifery,' p. 228.

the uterus was small, it is described as harder than usual, and in two as irregular on the surface. In six out of the thirteen cases a note is made of the fact that the uterus was "very tender to the touch."

Rhythmical contractions of the uterus (apart from labour). In six cases these are mentioned as being absent, and in no case are they described as present.

Vaginal discharge.—This, when present, is perhaps the most characteristic symptom, especially in those instances in which vesicles are expelled. When present the phenomenon is almost certain to attract attention, and the description of the discharge furnished by a patient, "like white currants floating in red-currant juice," gives a very accurate idea of its character.

The discharge is thin and watery, and generally tinged with blood; it may be so slight as to hardly cause any inconvenience, or so copious as to be a source of great discomfort; it stiffens linen by a process of coagulation similar to that of blood, it has an alkaline reaction, it contains albumen, and according to some observers mucin.

It is by no means constantly present, only having attracted attention in seven cases out of twenty-five; in most cases it is definitely stated not to have occurred.

In one instance it occurred only in the earlier two months of the pregnancy, in one case it persisted throughout the whole of the pregnancy, and in five cases it was present only during the later weeks. Its duration varied from two days to five months.

The discharge of cysts occurs much more rarely; indeed, in my cases I can only find one instance, though I am inclined to believe that if I could have examined a greater number I should have found the symptom more constantly present, it is so constantly described, and so much stress laid upon it in the text-books. However this may be, it is not usually this symptom, but the next to be described, which brings the patient to seek advice.

Hæmorrhage.—In nineteen instances out of twenty-five

bleeding was the immediate cause which brought the woman under treatment. Many of these cases were already in labour, the cervix dilated, and sometimes the mass protruding through it. But, apart from these cases, hæmorrhage during the course of the pregnancy is by no means an uncommon symptom. It was present to a greater or less extent in seventeen cases, severe in four, slight in thirteen; sometimes present during the whole pregnancy, sometimes only in the early months, but more usually in the later months alone.

Six of these cases have already been mentioned in considering the symptom of amenorrhœa.

It is a much more difficult matter for a hydatidiform mole to be completely expelled than for a carneous mole, or for a partially matured ovum; hence it is that in so many cases, where the process of expulsion commences naturally, it has to be terminated artificially; and it is after the commencement of labour that most of the hæmorrhage occurs. In four cases there was severe bleeding with no dilatation of the cervix—bleeding so severe, that although in two instances the condition was not suspected, it was decided to terminate the pregnancy. These cases will be further described in the section dealing with diagnosis.

Diagnosis from other morbid conditions.—The condition for which hydatidiform mole is most likely to be mistaken is concealed accidental hæmorrhage.

In both conditions it is usual to have some external hæmorrhage, to find the uterus large and tender on manipulation, and the shape and consistency differing from that of normal pregnancy. Unless there have been a watery vaginal discharge or passage of cysts, there is very little to help us in deciding between the two conditions, except that in concealed accidental hæmorrhage it is usual to hear a uterine souffle, whilst in hydatidiform mole this can rarely be distinguished. Fortunately the treatment of the two conditions is the same, so that the correct procedure is to settle the diagnosis by dilating

the cervix, and emptying the uterus. The difficulty of diagnosis is well illustrated by a case recently under the care of Dr. Champneys in St. Bartholomew's Hospital. The patient was a young married woman, aged 23. Her menstrual periods had been quite regular until eleven weeks previous to her admission; there then occurred a period of amenorrhœa for eight weeks; at the end of that time slight daily hæmorrhages commenced, and persisted up to her admission. She presented all the usual signs of pregnancy, excepting that a uterine souffle was never heard. The uterus, which reached to the umbilicus, was softer and more elastic than usual, and very tender on manipulation. The case was diagnosed as one of concealed accidental hæmorrhage or hydatidiform mole, and it was proposed to empty the uterus. The same evening the patient had a sudden attack of severe abdominal pain, and became collapsed; the uterus seemed to me to be larger, and certainly more tender than previously. The patient was put under an anæsthetic, and the cervix dilated; when I could introduce my finger the small characteristic cysts of a hydatidiform mole were felt. I proceeded to empty the uterus, and found that in addition to the cystic mole it contained a quantity of old and recent blood-clot. Two other cases have recently come under my notice, in each of which a diagnosis of placenta prævia was made.

Another condition which has led to mistaken diagnosis is the discharge of a true hydatid cyst through the uterus or vagina. Such cases have been described by Graily Hewitt.* The mistake, however, cannot be made if the cysts themselves are carefully examined; the presence of hooklets, and the mode of attachment of the cysts to one another, serving to distinguish their true character.

Hydramnion presents some features which resemble hydatid molar pregnancy, especially if combined (as

* 'Obst. Trans.,' vol. xii, p. 237. See also a paper by Targett, 'Obst. Trans.,' vol. xxxvi, p. 344.

sometimes happens) with hydrorrhœa gravidarum. In these cases, however, hæmorrhage is usually absent; a uterine souffle and the fœtal heart are often to be heard.

Prognosis.—Out of the twenty-five cases there were twenty recoveries, whilst five terminated fatally.

Of these five cases 1 died of uræmia.

,,	,,	1	,,	hæmorrhage and uræmia.
,,	,,	1	,,	septicæmia.
,,	,,	1	,,	sloughing of the uterus.
,,	,,	1	,,	pyæmia.

Thus the mortality of these cases was 20 per cent.

Amongst the ten consecutive cases in St. Bartholomew's Hospital there were three deaths, giving a mortality of 30 per cent.

The condition must then be regarded as a grave one, and in any given case it is impossible to say what condition of the uterine wall or uterine contents may be met with.

Complications.—The above mortality table indicates accurately (excluding perforation of uterus) what complications are to be met with and feared. In addition to those mentioned two cases developed symptoms of sapræmia, both slight in their nature and transient in duration. And one patient suffered from an attack of parametritis secondary to a laceration of the cervix inflicted during manipulation for the removal of the mole. The graver complications then are—

Albuminuria.—This appears to be a not infrequent and dangerous complication. Thus in my cases there are six instances of albuminuria, and two of those cases died.

In one case only is there suggestion of previous disease of the kidney; this case occurred in the second pregnancy of a woman aged twenty-four, who is stated to have had scarlet fever a year before, but who was not known to have suffered from nephritis at that time. The other cases appear to have resembled ordinary albuminuria of pregnancy; and I do not consider that any of them can be properly termed cases of eclampsia, for even in the two

fatal cases no mention is made of convulsions; although headache, drowsiness, visual disturbance and other symptoms of uræmia were well marked.

In the two St. Bartholomew's Hospital cases the albumen was qualitatively as well as quantitatively examined; it was found to consist chiefly of serum albumen with a small quantity of serum globulin. This analysis corresponds exactly with examinations I have been able to make in four cases of albuminuria complicating an otherwise normal pregnancy. In neither of these cases were blood or casts discovered in the urine, nor was the amount of urine excreted much below the normal. Both of these cases made a good recovery, and on leaving the hospital about ten days after delivery only a trace of albumen could be discovered in the urine.

Of the other four cases I have not been able to obtain such exact information; œdema was a marked symptom in all of these; two ran a similar course to the cases quoted above, and the other two proved fatal. On closer examination it is obvious that these two last cases belong to quite a different class, and the sign which during life served to distinguish them from those we have already considered was the presence of blood and epithelial casts in the urine. If these be present the case cannot be considered simply as one of albuminuria of pregnancy, a disease whose pathology is still obscure, but belongs rather to the one or other of the recognised forms of nephritis; for without gross changes in the kidney these casts are never found in the urine.

In both these cases the kidneys were examined post mortem; and in both gross changes were discovered.

Hence it becomes obvious that the cases of albuminuria must be divided into two classes:

1. Those in which no epithelial or blood casts are found in the urine.

2. Those in which these structures are present.

The prognosis in the first class is good, and so far as I have been able to ascertain from similar conditions,

occurring in the course of pregnancies otherwise normal, does not necessarily imply any permanent damage to the kidneys; although the albumen may be present in such large quantity that in one case a portion of the urine, boiled in a test-tube, gave a precipitate which after standing occupied two thirds of the volume of the original urine.

The prognosis in the second class of cases is bad, the kidneys are usually irreparably damaged, and the fatal termination, especially if there be severe hæmorrhage, is frequently imminent. Whether in these cases chronic nephritis was present before the pregnancy I cannot say, but nothing was found after death to support this view.

Hæmorrhage.—This has been already discussed at some length—it is only necessary here to repeat that during the delivery of the mole hæmorrhage may be severe and prolonged. In no case did hæmorrhage cause death in a healthy woman, but in a case already referred to, a hæmorrhage, not in itself severe, coming on in a case of nephritis caused a rapid collapse from which the patient did not recover.

Sepsis.—Three patients died from septic conditions.

1. From sloughing of the uterus.
2. From pyæmia.
3. From septicæmia.

Sloughing of the uterus.—A girl aged 18, in her second pregnancy, came to St. Bartholomew's Hospital in April, 1891, on account of bleeding, and there was delivered of a hydatid mole; parametritis ensued, and she remained in the hospital for a month. She was discharged on May 15th. Three months later she returned complaining of bleeding from the vagina; by the aid of the speculum the discharge was seen to escape through the cervix, which was sufficiently open to admit two joints of the finger. She remained under treatment for three months. During this time the uterus was curetted on two occasions and portions of sloughing endometrium removed,

frequent intra-uterine douches were given, and iodoform bougies inserted.

The treatment seemed to have no effect, and the patient died on December 13th, eight months after the removal of the mole. At the post-mortem a general pyæmia was found which had its origin in a sloughing condition of the whole uterus.

This case must, I think, be classified with those of Volkmann, Waldeyer, and Wilton, in which the degenerated villi had produced extensive changes in the uterine wall.

Since the above was written I have had an opportunity of speaking to Dr. Champneys with regard to this case. He thinks the case should probably be classed as one of malignant disease, though unfortunately no microscopic examination of the uterus was made; and possibly as an instance of the so-called deciduoma malignum, using the name not in the sense in which it was originally used, but to signify a sarcoma which developed during the puerperium, not in connection with the decidua but with the uterine wall. He has published this case in 'The Practitioner' for 1897.

The second case is one of pyæmia.—A primipara aged 33 was admitted on May 15th, 1895, on account of hæmorrhage; the cervix was dilated with a laminaria tent, and the uterus emptied of a hydatid mole.

The patient subsequently developed symptoms of septic peritonitis.

Post-mortem.—An abscess was discovered in the left ovary, probably of a pyæmic nature; in addition to this there was general peritonitis.

The third case is that of a woman aged 27, who had borne two children.

On November 7th, 1897, she suffered from hæmorrhage and passed a hydatid mole.

On December 3rd she was admitted into hospital on account of bleeding; at this time she was extremely ill, with a temperature of 102° and a pulse of 134.

On the 13th the cervix was dilated and the uterine cavity explored; a laceration was discovered on the right side of the cervix, but no other abnormal condition. Death occurred on the 18th.

Post-mortem.—Except for the laceration mentioned the uterus appeared quite healthy. No blood culture was taken, but there can be little doubt that this was a case of septicæmia.

In estimating the frequency of a complication of this kind, the only statistics which are of any value are those derived from consecutive series of cases; these instances all occurred in my series of ten consecutive cases; so that probably the condition is of more frequent occurrence than my tables would show, and must undoubtedly be regarded as the gravest and most frequent complication.

It is interesting to notice that in the third case quoted above, until the patient was admitted to hospital with a temperature of 102° and a pulse of 134, no interference of any kind, even to the extent of a vaginal examination, had been made. It may be that the more intimate relation which exists between the mole and the uterine wall leaves a larger extent of raw surface and more direct channels for infection than in the separation of a normal placenta; or it may be that some change occurs in the uterine substance which renders it a more suitable nidus for septic organisms; but, whatever may be the explanation, the fact remains that these cases are particularly liable to septic infection.

I wish to acknowledge my indebtedness to Dr. Champneys for his kindness in allowing me to use his notes of the cases under his care in St. Bartholomew's Hospital.

As far as possible all references have been verified from the originals; where this has not been possible that fact is signified by an (*x*) placed in front of the foot-note.

Dr. Herman thought the Society was to be congratulated on having so excellent a paper submitted to it. Dr. Williamson's analysis of his cases was exceptionally valuable. He (Dr.

Herman) was surprised at the high mortality Dr. Williamson reported. He did not think the mortality among cases of this disease in the London Hospital was anything like so high. His own experience was that in most cases when the cervix was dilated and ergot administered the mole was expelled and the patient got well. He did not remember ever having had to perform any intra-uterine manipulations to get away such a mole. In a few cases the existence of myxomatous degeneration had been suspected; but in most it had not been thought of until the characteristic vesicle had been seen in the discharge.

Dr. Griffith expressed his opinion as to the value of this paper, on a subject not recently discussed by the Society, nor receiving adequate attention in the text-books. Among the many points raised he would refer to the rarity of "myxoma fibrosum," a rarity he believed more apparent than real, it being easily overlooked in cases of fleshy moles unless carefully looked for. With regard to the difficulty of diagnosis, he would ask if any Fellow present could say that he had diagnosed, not merely suspected, a case in the absence of the extrusion of the characteristic cysts. He could say for himself that he had not; the cases he had met with he had not suspected, and those suspected had proved not to be cystic moles. There was another danger in the treatment not mentioned by Dr. Williamson, that of perforation during attempts to remove entirely the cystic mass, the uterine wall being at times extremely thin.

Dr. Heywood Smith said he thought there was a specimen of hydatidiform degeneration of the chorion in the museum of the Hospital for Women, and as far as he remembered it was diagnosed as such.

Dr. John Phillips wished to emphasise the difficulty of diagnosis between concealed hæmorrhage and vesicular mole, a point which had been referred to by the author. He had once had the opportunity of seeing a case of each kind on the same day, and the symptoms and signs presented were singularly alike, and even with the finger passed into the uterine cavity the difficulty was not appreciably lessened. Pain and hæmorrhage were the prominent symptoms in both cases. Dr. Phillips had seen several cases treated, and was not aware of any septic complication, whether treated by tents or artificial emptying of the uterus. He had never met with a case in which the cysts were passed in the discharges during any period of the illness.

Dr. Roberts asked Dr. Williamson if he regarded the condition as fœtal or maternal in its origin, and if a new formation or a degeneration, and if the latter what was its cause? Had degenerative conditions been noted in the chorionic stems of villi that had undergone cystic degeneration? Dr. Roberts thought that Dr. Williamson had not considered fully enough

the possible relation of hydatid mole to deciduoma malignum. Dr. Roberts thought there was some relation to this and the subsequent onset of malignant disease, and hoped that Dr. Williamson would throw more light on the subject. There were already a certain number of cases on record,* though it was possible that a variety of malignant growths existed under the heading of deciduoma, and the interest of Dr. Williamson's paper to Dr. Roberts was that if masses of protoplasm resembling villi were found in the malignant growths following upon hydatid mole, and if the mole grew from fœtal, not maternal, elements, we must regard such neoplasms as epithelial in origin, *i. e.* epiblastic, as held by many German authorities. This was opposed to the view of most of the speakers in the discussion at the Obstetrical Society of London in 1896 (see vol. xxxviii). Dr. Roberts did not think the matter was quite settled yet. He agreed with the difficulty in diagnosis, and that it was almost impossible before the expulsion of the mass. He quite well remembered one of the cases quoted in Dr. Williamson's list, as he (Dr. Roberts) was resident medical assistant at St. Bartholomew's at the time, and the foul discharge continued, in spite of all antiseptic treatment, after the uterus was emptied, and the patient eventually died.

With regard to the possibility of the occurrence of death from hæmorrhage in these cases, Dr. Ewen Maclean referred to an instance of a woman aged thirty-five, the mother of two children, who gave the history of three months' amenorrhœa with slight occasional blood loss *per vaginam*. During the three days she was under observation no vesicles were passed. There was a sudden onset of copious hæmorrhage with collapse, and notwithstanding the immediate emptying of the uterus and saline injection she sank.

Dr. Blacker mentioned a curious case of hydatidiform mole which had been admitted under his care into the Great Northern Central Hospital in July, 1898. The patient, a 2-para, complained of a tumour in the vagina and amenorrhœa. On examination the vaginal tumour was found to be of about the size of a walnut, and growing from the anterior vaginal wall just above the meatus urinarius. It presented a bluish-black appearance, and at one spot there was a small opening from which grumous-like blood was oozing and into which a probe could be passed for about half an inch. The tumour, which bled freely on incision, was excised. Dr. Freyberger, the pathologist, re-

* See discussion on Deciduoma malignum, 'Obstet. Soc. Trans.,' vol. xxxviii, p. 36; also Champneys, 'Practitioner,' vol. lvi, p. 15, 1896; Apfelstadt and Ashcroft, 'Arch. f. Gyn.,' vol. l, 1896; Müller, 'Zeit. f. Gyn.,' vol. xxx, pt. 2, 1894; Menge, and others.

ported that it appeared to be a fibro-angioma and not a simple hæmatoma. Two days after the operation the patient aborted of a hydatidiform mole, part of which had to be removed by the hand. She made an uninterrupted recovery, and at the present time, October 1899, is in perfectly good health, and the scar is quite sound. The patient has been quite regular since the operation, and has had no hæmorrhagia or metrorrhagia. Dr. Blacker thought that the presence of the vaginal tumour with the hydatidiform moles must be merely a coincidence, although it has a curious outward resemblance to some of the secondary growths in the vagina recorded as cysts of deciduoma malignum. Dr. Blacker also recalled to the minds of the Fellows the extraordinary case recorded by Bock * of a young girl, twelve and a half years old, living under conditions which rendered her virginity above suspicion. Her first period occurred two months after her twelfth birthday, when clots were passed without pain. At the second and third periods casts of the endometrium were passed with pain, and at the fourth period, after a slight show for three days, a hydatidiform mole was expelled, its base measuring about three quarters of an inch. The next and following periods were all normal, the child having been observed for four years subsequent to the passage of the mole. The latter had the typical vesicular appearances of a hydatidiform mole.

Dr. Herbert Spencer said that Dr. Williamson's method of determining the frequency of hydatidiform degeneration by comparison with the number of cases of midwifery attended from the hospital as that in which the moles occurred was a very fallacious one, and the proportion thus obtained was of no value whatever in estimating the rarity of the affection. The diagnosis from accidental hæmorrhage and placenta prævia was sometimes very difficult, and in the absence of cysts (which were rarely passed) was generally of the nature of a guess. He regarded abdominal ballottement as of some value in the diagnosis, since a fœtus was rarely present in cases of hydatidiform mole. He was astonished at the high rate of mortality given by the author.

Dr. Ludwig Fraenkel (Breslau) first expressed his thanks to the Society for having permitted him to be present and to hear the highly interesting communication of Dr. Williamson. He accepted with pleasure the President's courteous invitation to take part in the discussion.

The author has only briefly touched upon the relation of hydatidiform mole to deciduoma malignum. If he (Dr. Fraenkel) rightly understood him, Dr. Williamson adopts the view of the Obstetrical Society of London, which was expressed in the form

* Bock, 'Bull. de la Société Belge de Gyn. et d'Obst.,' vol. x, No. 3, 1899; 'Brit. Med. Journal,' epitome, July 29th, 1899.

of a resolution four years ago that deciduoma malignum is an ordinary sarcoma of the uterus with pregnancy, and, with Virchow, regards hydatidiform mole as a myxoma of the chorionic villi. On the other hand the great majority of German authors have for several years regarded it as clearly proved that the so-called malignant deciduoma in most cases takes its origin from the epithelium of the chorionic villi, because the connection of the elements of the growth with epithelial covering of the chorionic villi has in several cases been directly observed under the microscope. Further, according to the more recent researches, hydatidiform mole is not a true myxoma, but the condition is one of myxomatous *degeneration* of the stroma with very considerable *active growth* of the epithelium of the villi. Hydatidiform mole is essentially a *chorio-epithelioma benignum.* If retained remnants of a hydatidiform mole undergo malignant development there occurs a *chorio-epithelioma malignum, i. e.* deciduoma malignum.

Dr. Fraenkel would like briefly to call attention to a second point. There is an increasing number of patients suffering from hydatidiform mole in whom, on examination, bilateral ovarian cystomata are found. He himself observed one such case, and a short time ago read of the communication of another. If this coincidence of bilateral ovarian disease and hydatidiform mole receive further confirmation, it will be greatly in favour of the primary ovigenous nature of hydatidiform-mole disease, a question which Dr. Williamson also has discussed.

The PRESIDENT turned attention to the frequency of uncontrollable vomiting in association with hydatidiform mole. Besides the cases noted by Dr. Williamson, Brindeau had reported two. Bué had published two more, both in multiparæ, one of whom had nearly always, and the other never, suffered from hyperemesis in previous pregnancies. The President had not observed specially troublesome vomiting in cases of pregnancy complicated by myoma of the uterus. Keiffer traced vesicular mole to proliferating arteritis, which modified the development of the products of conception. This pathological change he attributed to the abuse of emmenagogues early in pregnancy, but he could not demonstrate his theory by any histological evidence. Neumann, Marchand, and Ludwig Fraenkel, on the other hand, had certainly brought forward strong evidence that deciduoma developed from relics of hydatidiform moles. Free growths of syncytium and of the subjacent cells of the chorionic villi were constant, according to L. Fraenkel, in hydatidiform mole; and it was precisely these structures that, in his opinion, formed the elements of a deciduoma. Marchand was a strong supporter of the molar theory as to the origin of deciduoma, dissenting from the opinion freely expressed at a meeting of the Obstetrical Society in 1896, and since then supported by

Veit, that deciduoma was developed from sarcoma existing before pregnancy.

Dr. Williamson said in reply that it was possible that the mortality was unusually high in the particular series of cases taken, but that the danger from sepsis was a very real one, and Dr. Herman and Dr. Spencer had been exceptionally fortunate in their cases. In one case quoted the patient was admitted to the hospital with a temperature of 102°, although no interference of any kind had previously occurred. This patient died within a few days of undoubted septicæmia. He agreed with Dr. Griffith that probably myxoma fibrosum was a much more common condition than was generally believed; but, for the reasons he had already given, he could not help regarding the condition as very closely associated with hydatidiform degeneration. He had not meant to give the impression that he regarded the disease as maternal, but at the same time, repeated hydatid pregnancies occurring in the same woman were difficult to explain. In reply to Dr. Roberts, he pointed out that he had carefully abstained from expressing any opinion upon the nature of the relationship which exists between hydatid mole and deciduoma malignum, as at present the facts hardly seemed to be sufficient to allow of deductions.

NOVEMBER 1st, 1899.

Alban Doran, F.R.C.S., President, in the Chair.

Present—37 Fellows and 2 visitors.

Books were presented by the Edinburgh Obstetrical Society, the Johns Hopkins Hospital Staff, the Madras Government Maternity Hospital Staff, Professor von Winckel, and Dr. John Phillips.

Francis Samuel Peck, I.M.S., was admitted a Fellow of the Society.

The following gentlemen were proposed for election :— Godfrey Charles Browne Hawes, M.R.C.S., L.R.C.P. (Pangbourne) ; Oliver Smithson, M.R.C.S., L.R.C.P. (Grays) ; E. Collingwood Andrews, M.A., M.D. ; Claude Somerville Hawkes, L.R.C.P. (Rockhampton, Queensland) ; Sydney Henning Belfrage, M.B., Lond.

DEFORMED FŒTUS.

Shown by Arthur Burton, M.B.

Introduced by Dr. Boxall.

The mother of the specimen was attended in her confinement by a midwife in the out-patient practice of the General Lying-in Hospital. No difficulty was experienced

in labour, the head being born before the arrival of the midwife, and the body was easily delivered in spite of the large collection of ascitic fluid in the abdomen of the fœtus. There was a great excess of liquor amnii, and the placenta, which had unfortunately been destroyed, was described as large and unduly soft.

The limbs of the fœtus are short and thick, and on each hand there is a supernumerary sixth digit. At the time of birth there was general œdema of the subcutaneous tissues and a large ascitic collection.

There is a depression in the position of the bridge of the nose; the head is large, and the bones of the cranium appear to be normally ossified, the general appearance suggesting a case of sporadic cretinism.

The mother has seven other children, of whom the sixth was said to be hermaphrodite, and had a sixth finger on one hand, and the seventh, according to the mother's description, was hydrocephalic, and the possessor of six fingers on each hand and very short legs. Both these were stillborn at the full time.

All the other children were normal. The mother is free from renal or cardiac disease, and has no history of syphilis.

The specimen was referred to a committee.

The following is the Report of Committee on Dr. Burton's Specimen of Deformed Fœtus.

We are of opinion that the specimen is an example of a lesser degree of intra-uterine rickets (achondroplasia), the condition formerly described as fœtal cretinism.

The fœtus was too much decomposed to admit of accurate dissection or microscopic examination of the soft tissues. The following measurements exemplify the disproportionate length of the trunk and limbs:

Vertex to heel . . .	14½ inches
Ant. sup. spine to heel . .	4 ,,
Manubrium sterni to symphysis pubis	6 ,,
Acromia to tip of middle finger .	4½ ,,
Vertex to lowest level of media .	11¾ ,,

There was a great amount of subcutaneous fat on the thorax and abdomen; the orifices of the body and the abdominal and pelvic viscera were normal. The thymus gland measured 1⅜ inches in length, and the thyroid appeared to be normal in size.

The subcutaneous tissues of the scalp were infiltrated with blood; The bones of the vault were normal, but in the base it was found that bony union had not occurred between the basi-sphenoid and basi-occipital bones.

After maceration of the fœtus the skeleton presented no abnormalities other than the somewhat disproportionate measurements mentioned above. No microscopic examination of the ends of the long bones was made.

W. R. Dakin.
Arthur E. Giles.
T. W. Eden, *Convener.*

October 31*st*, 1899.

Dr. Hermann said the fœtus shown seemed to him to be the subject of the condition known as micromelia, or achondroplasia, a disease which was not the same thing as rickets. He had published photographs of a patient suffering from this disease, on whom he had performed Cæsarean section ('Lancet,' Dec. 23rd, 1893, p. 1566). In that communication he had referred to other cases of the same disease, among them being two that had been brought before the Society by Dr. Champneys and Dr. Swayne respectively.

TUBERCULOUS PYOSALPINX.

Shown by J. H. Targett, F.R.C.S.

Mr. J. H. Targett showed the pelvic viscera of a middle-aged woman, nulliparous, who had died of pul-

monary phthisis. The Fallopian tube on each side was distended with caseous pus, and formed an elongated sausage-like tumour about 1½ inches across, which was in marked contrast with the retort-shaped swelling produced by the common pyosalpinx. The serous surface of the tumour was practically free from adhesions, and although the abdominal ostium was closed by adhesions from within (salpingitic closure), yet the fimbriæ of the tube were natural, and in no way affected by the distension of the ampulla. The uterus, ovaries, and pelvic peritoneum presented no signs of tuberculosis. It was pointed out that the wall of the tuberculous pyosalpinx was usually not much thickened, except when the disease was accompanied with ordinary septic inflammation. The contents of the pyosalpinx might be inspissated pus, or caseous and cretaceous material. It was important that a microscopical examination of the uterine end of the pyosalpinx should be made for the recognition of tuberculous salpingitis, because in the thin wall of the dilated tube the tuberculous lesion might have disappeared by fibrosis. Clinically the most important features were the presence of slowly forming tumours in the pelvis, and the absence of recurrent attacks of pelvic peritonitis, with sterility, menorrhagia, and dysmenorrhœa.

Dr. Cullingworth inquired as to whether there was evidence of tubercle in the uterus, or any other evidence bearing on the channel of infection. He referred to a case of Mr. Butler Smythe's, the specimen from which was now in the museum of the Royal College of Surgeons, and also to a published case of his own ('Clinical Illustrations of Diseases, etc., of the Fallopian Tubes'), which were probably of the same nature as some cases to which Mr. Targett had alluded as undoubtedly tubercular.

Dr. Herbert Spencer asked what was the evidence of tubercle in this case? Had Mr. Targett found tubercle bacilli, or did he rely upon the presence of giant-cells or caseation? He (Dr. Spencer) had, six months ago, removed two specimens of pyosalpinx from a virgin aged thirty, who had a gallon of free fluid in the cavity of the peritoneum, which was covered with "tubercles." Microscopic examination, however, showed no

evidence of giant-cells or bacilli, and the peritoneal fluid injected into guinea-pigs had not given rise to tubercle.

The PRESIDENT believed that hydrosalpinx in this specimen was due to closure of the ostium by peritoneal inflammation, and not by previous salpingitis. In his communication "On Closure of the Ostium," read before the Society in 1889, he had distinguished between "salpingitic closure" and "perimetritic closure," and since then several observers had recognised the latter form, which caused the development of a hydrosalpinx without any previous salpingitis. Such a hydrosalpinx sometimes suppurated. Sutton and Menge differed as to whether a hydrosalpinx ever developed out of a pyosalpinx, but neither brought forward very conclusive evidence.

PERIMETRIC CYSTOMA.

Shown by J. H. TARGETT, F.R.C.S.

MR. J. H. TARGETT showed the uterine appendages removed by operation from a case of double salpingitis, to illustrate a condition for which he proposed the name of perimetric cystoma. On clinical examination there was a large tumour in the pelvis, which extended upwards into the abdomen halfway to the umbilicus on the left side. At the operation it was found that the greater part of this tumour consisted of a multilocular cystoma formed between adhesions in connection with the left uterine appendages, and filled with clear serous fluid. Beneath it was the thickened and distended left tube containing pus. The boundaries of this cystoma were as follows:— In front of it was the stretched mesosalpinx and broad ligament of the left side; below and on the outer side were the left ovary and distended tube, above it was the uterine end of the left tube and adherent omentum, while posteriorly it was bounded by the adherent sigmoid flexure. A large space was thus formed, which was subdivided by membranous adhesions into loculi, and the whole space was filled with eight or ten ounces of serous fluid. It was

pointed out that similar collections of fluid were by no means uncommon in cases of chronic salpingitis, though not usually so large as in the specimen shown. It was important to recognise that the fluid was *not* between the layers of the peritoneum of the broad ligaments, but entirely behind the broad ligament, and shut in by adhesions which had formed between the various organs in consequence of local serous perimetritis. The space between the mesosalpinx and the ovary (the so-called ovarian fossa) was the most common site for fluid to collect; but it might extend much more widely, until a cystic tumour of considerable dimensions was formed, as in the present instance. For descriptive purposes some term was needed, and perimetric cystoma was proposed as sufficiently accurate and distinctive.

Dr. Cullingworth quite agreed with Mr. Targett as to the frequency of these thin-walled, and often very large collections of serum in cases of pelvic inflammation. He had been in the habit of regarding them as subperitoneal from the smooth shining appearance of their limiting membrane. He had not, however, submitted them to microscopical examination, and was, therefore, quite ready to accept Mr. Targett's account of their real structure and mode of origin.

SPECIMEN OF TUBERCULOSIS OF UTERUS AND APPENDAGES.

By Philip D. Turner, M.D.

This specimen consists of the uterus and appendages from a girl aged 20, who died from compression of the cervical cord from caries of the axis. As far as could be ascertained, the duration of the vertebral disease was about eight months. No other tuberculous lesion was found post mortem.

The catamenia commenced at fifteen, and were regular till eighteen. There was then amenorrhœa for nine

months, after which the periods were irregular. For several months previous to death there was menorrhagia and almost constant metrorrhagia. Beyond this there were no symptoms pointing to disease of the pelvic organs; no pain, and no degree of discharge sufficient to attract attention.

The uterus, ovaries, and tubes are the seat of caseous tubercle. The uterus shows no normal mucous membrane, the cavity being lined throughout by a caseous layer a quarter of an inch in thickness, presenting towards the cavity a ragged and irregularly nodular surface. This layer also presents a somewhat nodular margin towards the muscular coat, which is reduced in thickness. The tubes are enlarged in their whole length, and bound down by adhesions to the back of the broad ligaments, while their fimbriated extremities are adherent to the ovaries. Their walls are thickened and lined with caseous material.

The ovaries are enlarged. The left ovary contains an abscess, which has burrowed between the layers of the broad ligament, and contains broken-down caseous material. The right ovary also contains an abscess.

Microscopical examination of the wall of the uterus shows that the mucous membrane is entirely replaced by tuberculous tissue, which has undergone caseation. The muscular coat is also infiltrated to a moderate degree by tubercle.

There is no positive evidence as to whether the spinal or the genital lesion is of older date, but from the appearance of the specimen there is considerable probability that we have here a primary tuberculosis of the genital organs.

TWO CASES IN WHICH LIFE APPEARED TO HAVE BEEN SAVED BY ANTISTREPTOCOCCIC SERUM.

By G. Ernest Herman, M.B., F.R.C.P., F.R.C.S.,
SENIOR OBSTETRIC PHYSICIAN TO THE LONDON HOSPITAL.

(Received June 10th, 1899.)

(*Abstract.*)

Judgment as to the therapeutic value of the antistreptococcic serum is difficult, because we know not yet enough about the effects of the streptococcus. If the antistreptococcic serum fails, it may be because it is used too late, or because the patient has been poisoned by some microbe other than the streptococcus. In some cases published as examples of success from the antistreptococcic serum, it has seemed to the author, from reading the reports, that some of the patients were never in danger, and that in some recovery was to be attributed to other therapeutic measures (such as removal of retained placenta) used at the same time as the serum. For these reasons it seems to the author impossible at present to draw conclusions as to the value of the serum from statistical tables.

The author submits two cases, in which, in his opinion, the symptoms were such as to warrant a very unfavourable prognosis, but nevertheless the patients got quite well after antistreptococcic serum.

The first is a puerperal case, in which the occurrence of three severe rigors on successive days led the author to think that the patient was suffering from pyæmia, and that secondary abscesses, etc., might be expected. With antistreptococcic serum the symptoms improved, and the only development was a small patch of cellulitis which ended in resolution.

The second is a case in which a severe operation was followed

by great prostration from which the patient recovered, but the rally was followed by renewed prostration, such as in the author's former experience has ended in death. With antistreptococcic serum the symptoms quickly improved, and the patient got well.

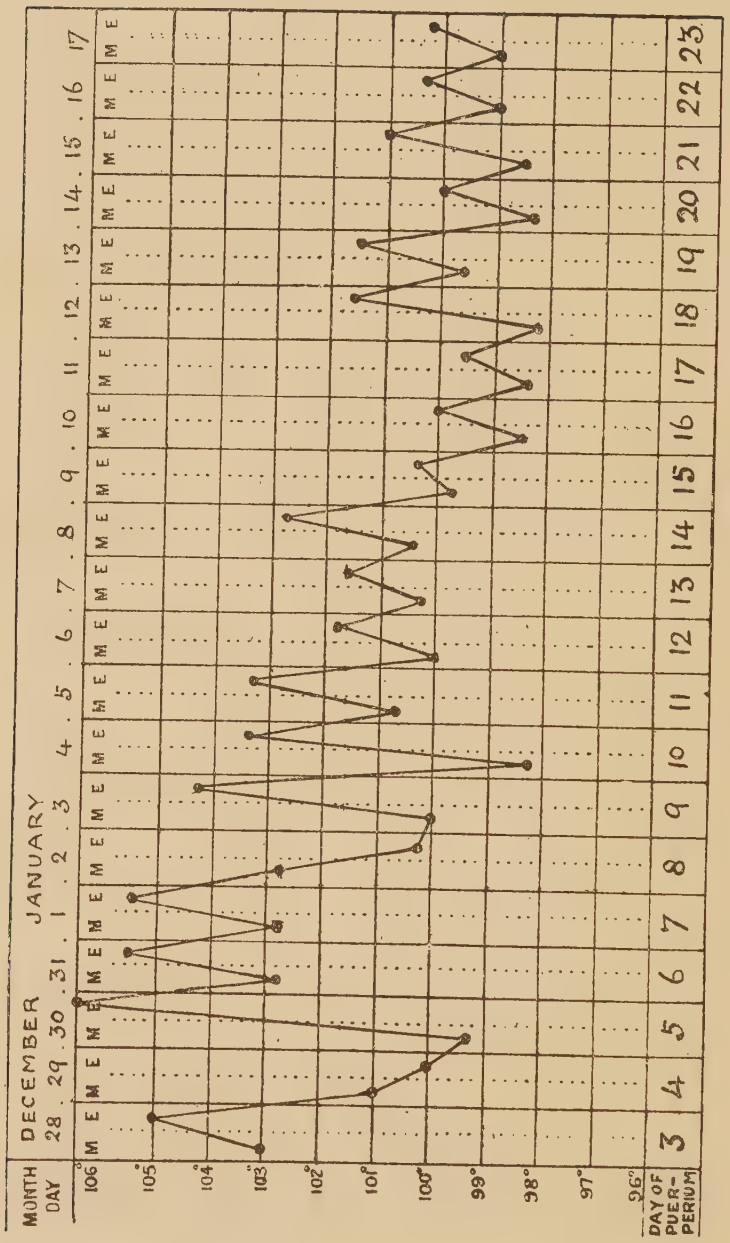
The author is aware of the difficulty and uncertainty of prognosis in cases such as those now reported, but he submits that, in the present state of our knowledge, it is only by the consideration of cases such as these that judgment can be formed.

In the present state of our knowledge the value of the antistreptococcic serum can only be estimated by the observation of cases in which it has seemed probable that their issue would have been different had the serum not been used. Cases in which the serum has proved a failure may be cases in which it has not been used until too late, or cases in which the patient has been infected by some organism other than the streptococcus. On reading the reports of some published cases I have thought in them recovery might have taken place had the serum not been used.

In this communication I bring forward two cases. In one repeated severe rigors made me think the patient had pyæmia; in the other fever with great prostration, coming on after the patient had recovered from the shock of a severe operation, made me think that the patient had septicæmia. Both patients recovered under the use of antistreptococcic serum.

Case 1.—A patient aged 20 was delivered of her first child on December 26th. The labour was easy and quick; the placenta and membranes were naturally expelled into the vagina. She was attended by Dr. A. C. Tunstall, of Victoria Park Road, with whom I was associated in the conduct of the case.

On December 28th the patient had a rigor, and the temperature rose to 105°. She was given sodium salicy-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DAY OF PUERPERIUM
3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23

late, and the next morning the temperature had fallen to 101°. It sank during the day, and on the morning of December 30th had fallen to 99·4°. In the afternoon of this day she had another rigor, the temperature rising to 106°. There was no excess or fœtor of discharge. The uterus was moveable, and there was no tenderness or swelling in the pelvis. Nothing abnormal was seen on inspecting the external genitals. There were no physical signs of disease anywhere. In the evening 20 c.c. of antistreptococcic serum was injected.

31st.—Morning temperature 102·6°. In the afternoon the patient had another rigor, the temperature reaching 105·6°. She was anæsthetised, and the uterine cavity was explored. Some small fragments of decidua were detached, but no large piece, and what was removed was not offensive. The uterine cavity was washed out with 1—2000 sublimate solution, 10 c.c. of serum was injected morning and evening, and 5-grain doses of sulphate of quinine given three times daily.

January 1st.—Patient had another rigor, the temperature reaching 105·6°; 10 c.c. of serum was injected morning and evening.

There were no more rigors. The temperature during the following week was of the type of hectic fever, low in the morning, high in the evening, but gradually becoming lower. The discharge was throughout normal in character, and not offensive. She had no pain until January 8th, when she complained of a dull pain low down in the abdomen on the right side. Nothing abnormal was felt on abdominal examination, but by bimanual examination a firm swelling was felt in the right broad ligament.

On January 10th the morning temperature was normal.

From this date until January 24th the temperature oscillated between 99° and 101°. After January 24th the temperature remained normal. The swelling in the right broad ligament diminished in size.

The question that arises in this case is whether it

was anything but an ordinary case of pelvic cellulitis ending in resolution, which would have run much the same course if the serum had not been used. To this I reply that in my experience such repeated and severe rigors are not common in slight cases of pelvic cellulitis. Other cases that I have seen in which there were rigors as repeated and severe as this have turned out to be pyæmia, shown by the subsequent occurrence of metastatic abscesses, joint affections, etc. Cellulitis beginning with rigors and high fever I have found generally go on to suppuration. Upon this question I invite criticism.

This case would be more convincing if the micro-organisms present in the blood and in the discharges had been identified. This was not done, first because the streptococcus is the organism so commonly present that one eminent bacteriologist has said that puerperal fever is synonymous with streptococcus infection; and secondly, because if any other organism than the streptococcus had been found there would have been nothing therapeutic gained by the discovery. Diphtheria was plainly not present.

Case 2.—L. R— began to menstruate at twelve, and was always regular until her illness, the flow being copious, only lasting three days, not attended with much pain. She was married in 1891, at the age of seventeen. In June, 1893, she was admitted into the London Hospital, under the care of Dr. Gilbart Smith, and was at first supposed to be suffering from enteric fever. On closer examination physical signs of disease within the pelvis were discovered, and she was transferred to Dr. Herman. Her complaints then were of hæmorrhage, pain, and persistent vomiting. On abdominal examination a painful tender mass was felt low down on the right side. By the vagina the uterus was found pushed down and fixed by a hard mass behind and on each side. She was treated by rest in bed, with occasional laxatives, and was discharged free from pain. Early in

1896 she miscarried at three months. This was her only pregnancy. With the exception of this event she remained well until August, 1897. She then began to have more severe pain with menstruation. In November the menstrual loss was more copious, and the pain which began with menstruation ceased not after it was over, but got worse. About December 25th she began to lose blood, and continued to do so until January 6th, when she was curetted by a general practitioner at her own home. Since the curetting she has never ceased bleeding, has felt very ill, and been in great pain, which has prevented sleep. Two days after the curetting she had a shivering fit, and has since repeatedly shivered.

On January 22nd, 1898, she was admitted into the London Hospital. On examination there was a tender, hard, non-fluctuating swelling in the lower abdomen, chiefly on the left side. By the vagina the uterus was found fixed by a hard tender mass filling the left posterior quarter of the pelvis, and continuous with the abdominal swelling.

The temperature on admission was 104°, and after the first day oscillated between 99° and 101°. Severe pain continued, requiring morphia for its relief. The abdominal swelling got bigger, till it reached as high as the umbilicus. Operative treatment was therefore advised; as the top of the swelling was so high up, the abdominal route was thought preferable.

February 1st.—The abdomen was opened. The swelling previously felt was found to be firmly fixed by adhesions. It was tapped, and greyish-brown pus withdrawn. The adhesions prevented the clear ascertainment of the anatomical relations of the tumour, but it appeared to be the dilated left Fallopian tube. The right tube seemed healthy. The removal of the cyst was attempted, but its wall was so friable that this could not be properly done. As much as possible was removed, and the cavity was sponged out and packed with iodoform gauze.

When put back to bed the patient's pulse was 150, small and running. She was given during the afternoon and evening three subcutaneous injections of strychnia gr. $\frac{1}{30}$, and a coffee and brandy enema, and she was kept warm. Her pulse improved in volume and lessened in frequency, sinking towards midnight to 116.

During the next morning (February 2nd) her condition became worse. The temperature, which was 99·5° at the time of the operation, rose to 101·8°. At noon her pulse was 142 ; her extremities and nose were cold ; the abdomen was tender all over, but not distended. The dressings were soaked with fluid from the wound. Twenty cubic centimetres of antistreptococcic serum were injected under the skin.

3rd.—Pulse had fallen to 114. Temp. 98·3°. Ten cubic centimetres of antistreptococcic serum injected.

5th.—Pulse 92. Temp. 99°.

8th.—Gauze removed.

March 31st.—Patient went out well.

The pus was examined by Dr. Bullock, bacteriologist to the hospital, who reported that it contained the *Streptococcus pyogenes, Staphylococcus albus,* and *Bacterium coli.*

The patient is now, February, 1899, in good health.

In this case a long operation involved severe shock to a patient already weakened by long-continued pain and fever. But from this shock, helped by warmth and stimulants, the patient was recovering ; and I think it will be the experience of those who have seen much of abdominal operations that when a patient rallies from the immediate shock of the operation she usually, unless she has been poisoned with septic matter, recovers. In this case, after the patient had rallied in a very satisfactory manner from the immediate shock of the operation, symptoms consisting of fever with great prostration developed, and with such symptoms, developing at such a time, I have not before known a patient recover. I take the symptoms to have been due to bacterial infec-

tion, the streptococcus being the most virulent of the organisms present in the pus. Rapid improvement followed the use of antistreptococcic serum, and for the reasons given I think the patient's recovery was the result of its use.

Dr. CLAPHAM narrated the case of a woman aged 28, who was delivered by a dirty, ignorant midwife on November 8th last year. On the third day her temperature rose to 103° F. The uterus was explored and washed out with perchloride of mercury solution. The temperature next day was normal, but on fifth day it again rose; on the sixth day it was 105°, pulse 130, and the woman was desperately ill; vomiting and diarrhœa set in; secretion of lochia and milk ceased. She was anæsthetised; the interior of the uterus was scraped and swabbed with tincture of iodine. Dr. Hayward saw the case, and advised the use of antistreptococcic serum. On the seventh day 15 c.c. of serum were injected, and afterwards five more injections of 10 c.c. were used at daily intervals. During this time the temperature rose daily to 105°, falling to 102°. On the tenth day the temperature did not rise above 101°. From the twelfth to the fourteenth day the temperature varied from 101° to 99°, and the pulse fell to 88. After this synovitis of the left knee came on, and a small abscess formed in left labium accompanied by slight rise of temperature. After a tedious convalescence she completely recovered. A sample of blood was sent up for examination at the British Institute of Preventive Medicine, with the result that no organisms were discovered.

Dr. PETER HORROCKS said that when this method of treatment was first made known he tried it in a case of puerperal septicæmia. The woman was very poor, and was attended by Dr. Nichols, of Rotherhithe. The case was one of that extremely fatal kind where there was a rigor on the third day, and where the lochia and milk were suppressed and the temperature continuously high. He went down himself and administered 20 c.c. of antistreptococcic serum three times in the first twenty-four hours, and subsequently thrice a day. The patient recovered, and this so impressed him that he felt very enthusiastic about the treatment—thinking that at last a remedy had been found for this most fatal disease. Since that time, however, he had seen many cases which had been treated by the serum, and, on the whole, he was bound to admit that he had been disappointed. Of course he was not in any way referring to cases of puerperal sapræmia, that were seldom in danger, and which could be speedily relieved by removing the decomposing material from the uterus by means of uterine exploration and

syringing, but he was referring to cases of the worst type of puerperal septicæmia, which generally proved fatal on or about the tenth day after labour, and which were not in the least benefited but generally made worse by intra-uterine treatment, the uterus containing no retained products and the lochia being scanty or suppressed. He had treated these severe cases at all stages of the disease, beginning the serum injections in some cases directly after the illness began, or, at all events, as early as the fourth day after labour. Some cases had certainly got well, but others had died without seeming to derive any benefit whatsoever. He detailed two cases which he was seeing repeatedly in consultation with their respective medical attendants —Dr. Williams, of New Cross, and Dr. Davies, of Peckham. Both patients had the serum injected very assiduously not only for weeks, but for months. Dr. Williams' patient was seen by many physicians, and Dr. Davies' patient was seen by Dr. Kingston Fowler. Both patients complained very much of the pain caused by the injections and their effects. They were made on the abdomen because it was found best to put the needle in a part not pressed upon in decubitus. One of these patients (Dr. Williams' case) died after four or more months' treatment, whilst the other one eventually recovered. Both of these cases started as cases of puerperal septicæmia, but developed symptoms pointing to pyæmia. In a case which he had seen in August this year with Dr. Puddicombe in St. Albans the patient was moribund, and the injections had not apparently the slightest effect. They were not begun until about the tenth day, and she died within twenty-four hours. In spite, however, of the disappointing results so far he felt that in these severe cases there was no other treatment that offered the slightest hope, and hence he recommended the continuance of the serum injections. Probably, and he hoped before long, some different kind of serum would be found that would prove far more certain in its beneficial results. Dr. Salter, the Bacteriologist of the British Institute of Preventive Medicine, was working at the subject, and was in hopes of finding a better antidote than the one now in use. He (Dr. Salter) said that so long as the serum in the bottles was clear it was quite safe to inject, even though it was coloured brownish or reddish. But when it was turbid it should not be used, but returned to be exchanged for other. Of course it should be injected with all aseptic precautions, and then it was not only quite safe and harmless, but even if it had no antitoxic effects the serum supplied a certain amount of nutrition.

Dr. Amand Routh alluded to the great difficulty there was in deciding upon the merits of any one method of treatment when several had been adopted. No gynæcologist would confine himself to the treatment of a dangerous case of puerperal

septicæmia by the serum alone, and would certainly, wherever possible, explore the uterine cavity, and curette or otherwise deal with the lining membrane, injecting the serum only as an adjunct. He thought that the reports appearing from time to time in the medical journals of cases of recovery following the use of serum, where no local treatment had been adopted, were of more value to the present discussion than cases which those present could adduce for that very reason, viz. that other strong measures would have been also adopted. He could only recall one successful case where he had ordered the serum, and had done nothing else. This woman had had a rigor with very high temperature on the third day of the puerperium, and was seen by him on the eighth day in consultation with Dr. Hoysted, of Swanley. She was then apparently dying. The pulse was hardly perceptible, the tongue brown and temperature high, and the abdomen greatly distended. The uterus was absolutely fixed, and the pelvis full of cellulitic deposit, so that nothing could be done locally. He injected 10 c.c. of antistreptococcic serum, and the husband fetched more from London, and much to his surprise the patient eventually recovered after a protracted convalescence and the subsequent development of a pelvic abscess. He hoped that even if the serum was used in apparently appropriate cases the practitioner would never neglect the uterine exploration by the finger, dealing with the condition thus revealed. He was not aware of evidence to prove that the injection of sterilised serum was in itself harmful.

Dr. Cullingworth spoke of the difficulties inherent in all inquiries into the effect of remedies, and of the hesitation every scientifically trained person felt in attributing recovery in any given case to the mode of treatment adopted. Dr. Herman had quite recognised this, and had expressed his opinion with scientific caution. For his (the speaker's) own part, he felt it right, if the symptoms persisted after emptying the uterus, or if on examination of the uterine cavity nothing was found there to account for the septic condition, to advise the administration of the serum. It was true that it could only be expected to be of service where the streptococcus was the predominant infecting micro-organism. But observations seemed to show that the streptococcus was found more frequently in puerperal septicæmia than any other pathogenic micro-organism, so that the chances in any given case were in favour of the infection being streptococcic. It was said that a bacteriological examination of the blood of the patient should precede the adoption of this treatment. To that he replied, investigate the case bacteriologically by all means, but do not postpone the commencement of treatment until you have found out what are the offending germs, or you may be losing your one opportunity. He supposed that almost every one present

could bring forward some one or more cases in which the serum had been used, and many could no doubt cite instances both of apparent success and apparent failure. He referred to a case he had seen in consultation, where, after removing some indurated and adherent portions of placenta, the temperature had gradually risen until in twelve hours it was 102°, and in twenty-four hours it was 104°. Two injections of 10 c.c. antistreptococcic serum were administered at an interval of some hours, and the temperature fell, the fall being rapid and permanent. Thus the temperature at the time of the first injection was 103°; when the second injection was given seventeen hours later it was 100°, and twelve hours after that it was normal. The discharge remained for some days very offensive, but the temperature did not again rise. Neither he nor the two medical attendants had any reasonable doubt in that case as to the beneficial action of the serum, though it could not be proved. On the other hand, he had at present under his care at St. Thomas's a patient with puerperal septicæmia, in whom the serum had been injected twelve or fourteen times without any appreciable effect. A chart of the patient's temperature was exhibited. Here was a case as disappointing as the other was encouraging. Until we had more precise knowledge there were sure to be failures, but that was no reason against trying the serum in any given case. It was, as yet, the only antidote to puerperal septicæmia that we possessed.

Dr. Eden said he thought that in this matter treatment had moved too rapidly in advance of pathology. The antistreptococcic serum was a physiological antidote for a certain organic poison; if that poison were not present, then it could be of no use to administer the antidote. There seemed to be no reliable ground for the assumption that puerperal septicæmia was always due to the streptococcus; the recorded observations of bacteriologists seemed to show that a number of other organisms were, or might be, concerned in its causation. It therefore seemed to him to be of great importance to determine the presence or absence of the streptococcus by examination of the uterine secretions and the blood in every case treated with the serum. Even in the case of a patient so ill that delay would be dangerous, bacteriological examination might follow the use of the serum in the manner of a control observation. In the absence of such observations the remedy was an empirical one, and its use had no rational basis of support, and until a series of fully observed cases had been placed upon record no real advance could be made.

Dr. Drummond Robinson had bacteriologically investigated a number of puerperal septic cases during life, and had found the results of such investigations to be very unsatisfactory. He therefore disagreed with those who thought that the serum

should only be employed in those cases in which it was possible to demonstrate the presence of streptococci. He had treated seven puerperal septic cases with this serum, but in only one instance did the slightest benefit result. The successful case was one of puerperal sepsis with membranous vaginitis, first treated with the serum on the eleventh day after labour. Although the patient appeared to be *in extremis*, she rapidly improved after the first few injections of the serum; the membrane quickly disappeared, and complete recovery resulted.

Dr. Pollock said that he agreed with Dr. Eden that there were probably in the large majority of cases several varieties of micro-organisms present which might account for the failure of the streptococcus serum, whilst in the few cases in which it was successful possibly only the streptococcus was present. Vaccination was only efficient so far as smallpox was concerned; as well might it be expected to ward off other specific febrile diseases by that means, as for the streptococcus serum to benefit the patient when other micro-organisms are present.

Dr. Ewen Maclean thought that one good result of the present discussion would be the checking of the indiscriminate use of this anti-microbic serum. When it was recognised that the same type of illness after childbirth might be produced by such different bacteria as the streptococcus, Löffler's diphtheria bacillus, the typhoid bacillus, *Bacillus coli communis*, and the scarlatina germ, and that further it had been experimentally proved that the serum of an animal immunised to the effects of one bacterium might prove provocative of increased virulence in the effects of another, it was quite conceivable that the injection of the antistreptococcus serum in cases which were not caused by that micrococcus might be harmful rather than helpful.

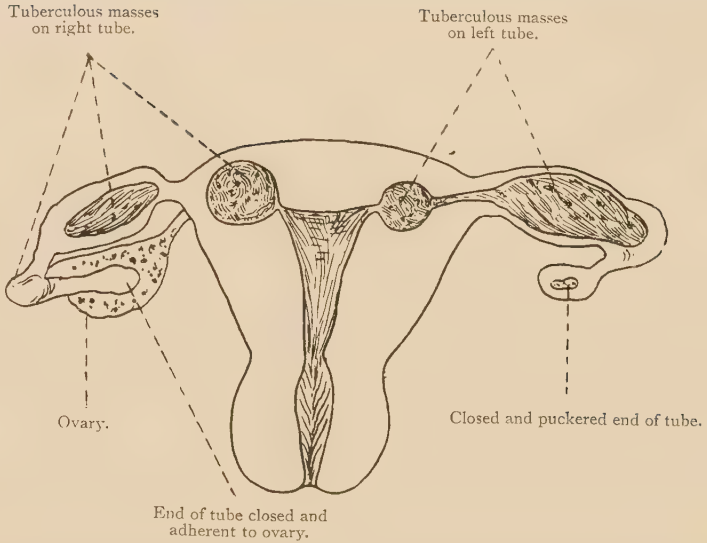
Dr. Robert Wise thought that serum treatment would rarely be required in puerperal cases if the conditions were recognised sufficiently early, and the modern local and general treatment applied.

Dr. Herbert Spencer had, at the August meeting of the British Medical Association (see 'Brit. Med. Journ.,' October 14th, 1899), given the results of an extensive inquiry he had made into the subject of serum-therapy in puerperal fever. Those results were unfavourable to the serum, and were corroborated by the results of the investigation carried out by a committee of the American Gynecological Society, a full report of which appeared in the 'American Journal of Obstetrics' for September of this year. He regarded it as unscientific, and indeed superficial, to inject antistreptococcic serum in cases in which the streptococcus was not present. Whitridge Williams had shown that among twenty-six cases investigated, the streptococcus had only occurred in eight. Moreover the treatment by injection of the serum was not free from danger, Bar and Tissier

and Baldy having seen death apparently caused by it, while B. Norris had seen it followed by erysipelas, Bar by albuminuria in two cases, and Dubrisay by dyspnœa. Every obstetrician had seen apparently hopeless cases of septicæmia recover without the employment of serum; he himself had known many cases of recovery when the temperature had remained high and rigors had occurred for weeks; he had also seen two patients recover after losing an eye from suppurative panophthalmitis occurring in the course of puerperal fever. Cases such as these were quite as striking recoveries as those given by the author, in one of whose cases he noticed that the temperature remained high long after the injections were commenced. On the whole he (Dr. Spencer) was disposed to agree with Olshausen that "we obstetricians have derived no benefit from serum-therapy."

The PRESIDENT said that surgeons would be deeply indebted to obstetricians if the value of antistreptococcic serum was proved, so that it could be utilised for sepsis after operations, as well as for puerperal infection. Unfortunately such proof was not forthcoming. He agreed with Dr. Spencer as to the high importance of the report on antistreptococcic serum in the treatment of puerperal infection, published in the September number of the 'American Journal of Obstetrics.' It should be carefully studied, as it not only seemed to demonstrate that the employment of the serum would not materially improve the general results in the treatment of streptococcal puerperal infection, but also implied that the routine use of the curette greatly increased the mortality.

Dr. HERMAN agreed with Dr. Eden that it was most desirable that cases of illness caused by the streptococcus should be differentiated, and the antistreptococcic serum used only for them. But at present this could not be done. Our knowledge of the effects of the streptococcus was at present insufficient, as the remarks of the speakers had illustrated. The case first in the paper had impressed him, not because the patient recovered, but because after so ominous a beginning the illness terminated in so little.


Tuberculous masses on right tube.
Tuberculous masses on left tube.
Ovary.
Closed and puckered end of tube.
End of tube closed and adherent to ovary.

Dr. P. D. TURNER's diagram showing nodules in wall of uterus in the situation of the intra-uterine portion of the tube.

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NOTES ON TUBERCULOSIS OF THE FALLOPIAN TUBES AND UTERUS IN CASES OF PHTHISIS.

By Philip Dymock Turner, M.D.

The subject of this short communication is one which can lay claim to no particular practical value; it is merely a small contribution to the natural history of tuberculous infection of the female generative organs. By the kindness of Dr. Habershon I was enabled to examine the genital organs of twenty-seven consecutive cases of phthisis in female subjects in the post-mortem room of the Brompton Hospital. In all cases I noted the naked-eye appearances, and made a complete microscopical examination.

While the results of my investigation contain nothing particularly new, they may be worth recording, as they demonstrate the frequency of tuberculous lesions of these organs in cases of phthisis; while, some of the lesions observed being in a very early stage, they afford some evidence as to the mode of infection and the development of the disease.

Tuberculous lesions of an undoubted character, demonstrated both by microscopical structure and the detection of the tubercle bacillus, were found in five cases, or 18·5 per cent. of the cases examined.

In one of these the tubes alone were involved; in two the tubes and the body of the uterus; in one the tubes, body of uterus, and cervix; and in one the tubes, body of uterus, and ovary were affected.

All the five cases were examples of chronic phthisis, and all presented some degree of intestinal ulceration.

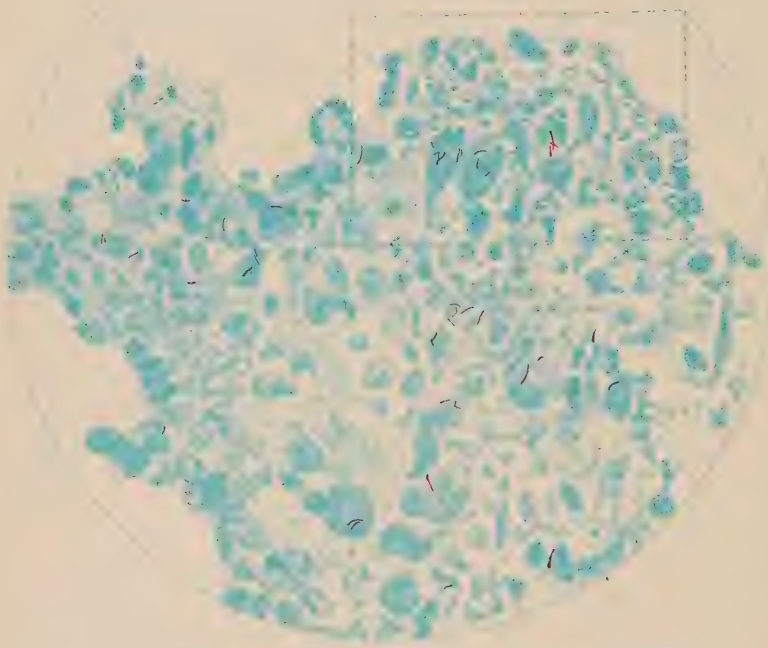
In seven of the remaining cases there was evidence, either to the naked eye or to the microscope, of interstitial or catarrhal salpingitis, and in several of these the condition was suggestive of a tuberculous origin; but no positive evidence to that effect was forthcoming. I have left out of account tubercles of the peritoneum covering the genital organs, which presents nothing special to those organs.

These results are somewhat unexpected; as from ordinary experience one would say that it is common enough to see tuberculous tubes, but that affection of the uterus is rare. As far as they go, my cases seem to show that, when a complete and systematic examination is made, tubercle will be found in the uterus more commonly than would be expected.

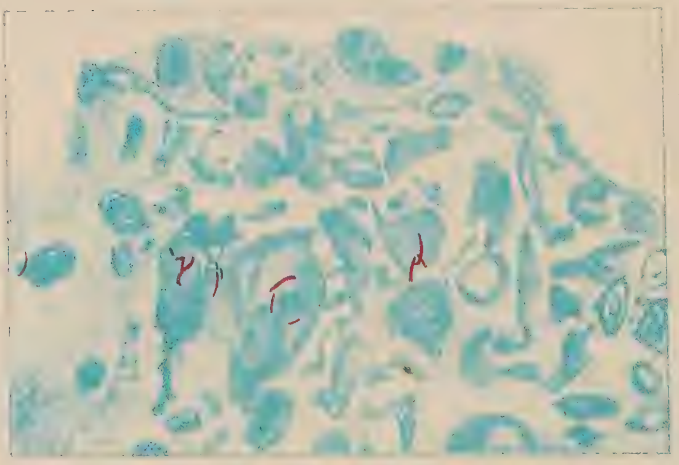
Such interest as there is in the lesions found lies chiefly in the evidence which a complete examination affords of the mode of origin and development of the disease in the tubes and uterus.

With regard to the tubes, the well-developed condition of tuberculous salpingitis is well known. The typical tuberculous tube is much thickened and distended, and shows an opaque yellowish-white surface, with a fine network of injected vessels coursing over it. The swelling, as a rule, increases from the uterus to about the junction of the inner and middle thirds of the tube, while the outer two thirds are more or less cylindrical, and the thickening ends abruptly at the fimbriated extremity, leaving the fimbriæ arranged like a rosette on the flattish end of the swelling. The extremity of the tube is often pervious, and shows the caseous contents, which sometimes project through it.

Not infrequently the extremity of the tube is adherent to adjacent structures, and is dilated to form with these structures part of the wall of an abscess cavity. More rarely the condition is one of hydrosalpinx, as was the case in one of these specimens. In this case I believe the tuberculosis to have been recent and acute. The tube



Mucous Membrane of tube in early stage of Tuberculous Salpingitis, shewing colonies of bacilli ($\frac{1}{12}$ immersion.).



To illustrate Dr. TURNER'S Tuberculosis of the Fallopian Tubes and Uterus in cases of Phthisis.

Bale & Danielsson Ltd. lith.

was slightly dilated to the size of a thick lead pencil, with clear fluid. The plication of the mucous membrane was little altered, and the lining epithelium was for the most part intact; but the stroma of the plicæ was thickly studded with grey granulations containing giant-cells; while bacilli were found both in the giant-cells and in the intercellular spaces. In places the epithelium had disappeared and the subjacent tissues had become necrotic. The blood-vessels of the tube were remarkably engorged with blood. To the naked eye there was nothing to suggest tuberculosis, or to distinguish the specimen from any other specimen of catarrhal salpingitis.

To return to the typical form of tuberculous tube; it is evident on examining such tubes that the disease has advanced from the outer to the inner extremity of the tube; and that, if we wish to find the earliest stage of the disease, we must seek it at the inner end. The earliest stage which I have been able to observe shows much thickening of the plicæ and loss of some of their ramifications. In some of them there is necrosis of the part furthest removed from the vascular base. The epithelium is often entire, except over the necrotic portions. Giant-cells are not yet formed, and in most sections the bacilli are scanty. Sometimes, however, considerable colonies of them are to be seen, as in the section represented in the accompanying sketch; where, in a single field of the $\frac{1}{12}$ immersion objective, above forty bacilli are to be seen (Plate IV). Many of the bacilli have the appearance of being free in the intercellular spaces; but nearly all of them are in close proximity to some one of the stained nuclei of the epithelioid cells, and the large majority are, no doubt, contained in the protoplasm of these cells. In other parts of this section, and in other sections from its immediate neighbourhood, the bacilli are sparsely distributed.

At a rather more advanced stage, an inch further from the uterus in the same specimen, giant-cells are formed, and the bacilli are nearly all contained in these. Casea-

tion is commencing, and larger areas are undergoing necrosis.

Passing still further out, the mucous membrane is seen to be gradually entirely replaced by a mass of tuberculous material, for the most part caseous, and containing numerous giant-cells, which show a moderate number of bacilli, many of which are elongated and sporulating.

Still further out the muscular coat is invaded by tuberculous formation, while the site of the mucous membrane and the lumen of the tube is entirely filled by a caseous mass. In this the form of the giant-cells is still to be seen ; but their details are no longer recognisable, while bacilli are rarely to be found.

Finally we have the tube represented by a caseous mass, covered only by peritoneum.

This seems to be the typical course of tuberculous salpingitis, uninterrupted and continuous spread from without inwards. In some cases the spread is less regular, foci of tubercle apparently starting at different points in the tube and proceeding to caseation, while the intervening portions remain comparatively healthy. One such case is among these specimens, in which there were three foci in one tube and two in the other. This case also figures as one of tubercle of the uterus, as the inner nodule on either side was contained in the substance of the uterine wall at its angle (see diagram). These nodules were quite unsuspected until the uterus was cut into in that region, and the tube at the point where it leaves the uterus showed only quite an early stage of tuberculous disease.

Although in this case the foci were distinct from one another, there was still evidence of spread from without inwards, inasmuch as caseation was far advanced in the outer nodules, while in the intra-uterine nodule it was practically absent.

Of the remaining three specimens of tubercle of the uterus, one presented a light-coloured and slightly raised patch on the posterior wall, near the fundus. It was

about the size of a small pea, and on section proved to be about three or four millimetres in thickness. Microscopically it consisted of typical tuberculous tissue—an agglomeration of grey granulations through which coursed bundles of uterine muscle-fibres infiltrated with small round cells. At the surface the tissue was of unmixed tuberculous structure, no trace of the uterine mucous membrane being discoverable. The adjacent mucous membrane was merely infiltrated with a small round-celled growth.

This nodule suggests an origin from blood-infection, and probably started in the substance of the mucous membrane in its deeper part.

The other two specimens are quite different in character, while closely resembling one another. The naked-eye appearances were as follows:—In the one the mucous membrane of the uterus showed a number of irregular whitish milky patches, very slightly raised, and having a soft surface, much as if the mucous membrane were here and there sodden and macerated. Some of the patches were isolated, while others ran together irregularly. In the other the mucous membrane generally had a reddish colour, and presented only two or three irregular patches. These were greyish yellow in colour, and had a rather more ragged and pultaceous-looking surface than those in the former case. The condition of the two cases was, however, evidently essentially similar. It could not be described as ulceration; and, indeed, the changes were so unobtrusive that they would hardly have attracted the attention of any one who was not specially looking out for them.

On microscopical examination both these specimens show slight thickening of the mucous membrane with lymphoid tissue, and an œdematous condition of its superficial portion. Here and there the extreme surface of the membrane has become necrotic. The superficial epithelium is mostly lost over the patches, but small portions of it are still to be seen. Bacilli are to be found apparently

free in the intercellular spaces, in the necrotic portions, and in the œdematous layer of the mucous membrane. Some of them are in close relation to nuclei, and, no doubt, contained in cells; but others are not. No typical giant-cells are to be found, but in parts there are to be seen forms which evidently represent early stages in their formation—masses of protoplasm containing two, three, or more large nuclei, exactly like those of the large, pale variety of the stroma cells of the mucous membrane.

The structure of the mucous membrane can be clearly seen in these patches, and here and there uterine glands may be seen which still retain some portion of their epithelium. It seems that we have here the earliest stage in the development of uterine tuberculosis in the form of what may almost be called a bacillary catarrh of the mucous membrane. The condition is essentially similar to the earliest stage observed in the tubes. The nature of the process seems to be that the bacilli find an entrance into a weak spot in the mucous membrane. Here the toxins secreted by them, acting as an irritant, produce first œdema and then necrosis of the surface. Subsequently occur the tissue reactions which result in the formation of tubercles and in the caging of the bacilli in giant-cells.

The usual form of tuberculous salpingitis and endometritis in cases of phthisis then appears to be due to the entry of bacilli into the open ends of the tubes from the peritoneum. With regard to the source of these bacilli, it may be remarked that in all the cases I have observed there has been some ulceration of the intestine, with its attendant deposit of miliary tubercles on the peritoneal aspect of the ulcers.

Infection of the uterus through the blood-supply probably also occurs, but much less frequently.

The infection may spread in a similar manner to the cervix. This occurred in one of these cases, where the disease showed as a gelatinous-looking nodule. Microsco-

pically there was lymphoid overgrowth, with a few giant-cells and a slight degree of necrosis of the surface of the mucous membrane.

The ovary does not offer the same nidus for this kind of infection, and hence is comparatively rarely diseased in these cases. The only instance I found in these cases showed nothing definite to the naked eye, but microscopically there were a few miliary tubercles scattered in the cortical substance.

Dr. Peter Horrocks said it was unexpected to find such a large proportion of patients with undoubted pulmonary phthisis affected by tuberculous mischief of the uterus and other generative organs. He thought it would be extremely valuable if it were possible to ascertain whether these patients had during life complained in any way of symptoms associated with the generative organs. When patients complained of pain or other symptoms of pelvic origin which proved subsequently to be due to tuberculous mischief, it was his experience that, as a rule, they had few, if any, lung symptoms; in fact, they did not bear out Louis's law, namely, that if tubercle was found in any part of the body after puberty it was sure to be found in the lungs. Another point was that most of the patients suffering with what might be called primary tubercle of the generative organs were young people, and he asked what the average age of the twenty-seven recorded cases was. He thought that in cases of this kind—namely, when the generative organs were chiefly, if not solely affected—the uterus itself was very rarely the seat of the disease, whilst the Fallopian tubes were most commonly affected, and not infrequently the ovaries and the peritoneum. He related details of a case where the cervix uteri was studded with what appeared to be swollen and distended ovula Nabothi. A piece was removed and examined microscopically, and it was thought to be sarcomatous. The whole uterus was then removed by vaginal hysterectomy, and on section the entire endometrium was thick and pulpy. It was examined at the Royal College of Surgeons, and pronounced to be tubercular.

The President suspected that in the cases where Dr. Turner detected hydrosalpinx the tube was first closed by local peritonitis and then infected with tubercle, whilst in many other cases, where the tube was still unobstructed, the tubercular disease began in the tube as a true tubercular salpingitis. Hydrosalpinx is often seen without any evidence of previous salpingitis, even in subjects free from tubercle. Mr. Targett's

observations reminded him of Kleinhaus' statement, based on statistics, that both the evidence of necropsies on phthisical women and the evidence gained by abdominal operations demonstrated that the Fallopian tube was the part of the female genital tract the most often affected with tubercle. In acute tubercular salpingitis it appeared that the bacillus was found in abundance, whilst giant-cells were scanty; in the chronic form the giant-cells were abundant and the bacillus scanty. The balance seemed even in Dr. Turner's cases, possibly because subacute exacerbations were frequent.

Dr. Turner, in reply, said that, as far as he knew, none of the cases presented any symptoms whatever referable to the lesions of the generative organs. The great relative frequency in which the lesions had been found he attributed chiefly to their having been minutely searched for, the naked-eye changes being often so slight as to be overlooked or dismissed as not worth recording by the general pathologist who is making the post-mortem.

DECEMBER 6TH, 1899.

ALBAN DORAN, F.R.C.S., President, in the Chair.

Present—32 Fellows and 1 visitor.

Books were presented by the Royal Medical and Chirurgical Society, the Medical Society, and Dr. Cullingworth.

Edwin H. Grant Morris, M.B., B.C.Cantab.; Henry Russell Andrews, M.D., and J. E. Paul, M.D., were admitted Fellows of the Society.

The following gentlemen were elected Fellows of the Society:—Godfrey Charles Browne Hawes, M.R.C.S., L.R.C.P. (Pangbourne); Oliver Smithson, M.R.C.S., L.R.C.P. (Grays); E. Colling Andrews, M.A., M.D.; Claude Somerville Hawkes, L.R.C.P. (Rockhampton, Queensland); Sydney Henning Belfrage, M.B.Lond.

The following gentlemen were proposed for election:—Ernest James Hayford, M.D. (Freetown, Sierra Leone), and William Warburton Wingate, M.B., B.C.Cantab.

SUPPOSED MYXO-SARCOMA OF THE UTERUS REMOVED BY ABDOMINO-VAGINAL METHOD.

Shown by Dr. AMAND ROUTH.

M. W—, aged 42, married, but no children. Her catamenia had been regular though somewhat profuse till May, 1896, when she had a flooding, and lost blood continuously till November, 1896, and from that date till

May, 1898, she lost blood frequently at irregular intervals.

She was admitted into Charing Cross Hospital in May, 1898, with a large putrid soft black mass protruding from the vulva. This was found to be adherent to the fundus uteri, which was at the level of the umbilicus, and was apparently a sloughing fibroid polypus. While removing this mass, which was altogether as large as a fœtal head, several large gushes of offensive blood-stained water came away. Septic symptoms followed, but she left the hospital July 1st, 1898, apparently cured, and the level of the top of the fibroid uterus had descended to two fingers' breadth above the pubes.

The patient was readmitted to hospital July 25th, 1898, and was treated by Dr. Hubert Roberts, who was kindly acting for me, and he successfully removed large masses of putrid material on July 26th, and again on August 19th, and she left the hospital apparently convalescent on September 8th, 1898. She was again admitted on October 25th after a month's hæmorrhage and offensive watery discharge. The uterus now reached to three inches above the umbilicus. Protruding through the vulva was a similar black putrid mass. This was removed, and the uterus emptied as before of all detachable material. The uterus then became smaller daily till about November 5th, when it began to enlarge again, and reached the level of the umbilicus on November 12th, on which day similar material was found to be protruding through the cervix, and on November 14th this was again removed.

On December 6th she left the hospital with the uterus three fingers' breadth below the umbilicus.

January 9th, 1899.—Readmitted. She states she has had irregular hæmorrhage since December 15th. The uterus is now at the level of the umbilicus. A sloughing mass occupies the vagina. The uterine wall was very thin on the right side after removal of the softened detachable portions.

30th.—The patient was in a very septic state, temperature being 104°. Another large mass was removed. The microscope reveals nothing, as all the tissue removed is black and putrid, and mucoid in appearance. The uterus then lessened greatly in bulk, and on February 20th it was removed by panhysterectomy, being first separated from its lower attachment *per vaginam*, and removed through the abdomen.

The uterus shows a soft brain-like tumour on right side of the fundus, and there is no doubt that this tumour, proved by Dr. William Hunter to be a myxo-sarcoma, has been going through a process of growth, degeneration, and sloughing with expulsion since November, 1896, though possibly at first the tumour was an ordinary intra-mural fibroid.

The patient has made an excellent recovery, though she had some suppuration both in the abdominal wound and in the vaginal vault, which was due doubtless to her extremely septic condition.

Dr. Herbert Spencer, who had not had an opportunity of examining the microscopic slides, remarked that the tumour in the wall of the uterus appeared in the specimen very sharply and evenly demarcated from the muscular wall of the uterus if it were a malignant growth. He (Dr. Spencer) thought it might be a degenerated fibroid. He had often known these to recur after removal, even several times, but the subsequent histories showed that they were innocent tumours. Œdematous, degenerated, and inflamed fibro-myomata sometimes resembled sarcomata when examined with the microscope. He hoped a committee would be appointed to examine Dr. Routh's specimen.

Dr. Walter Tate said that he had had an interesting case of recurrent fibroid tumour of the uterus under his care at St. Thomas's Hospital. The patient, who was thirty years old, was admitted on the first occasion in August, 1896, with a history of severe and continuous hæmorrhage lasting a month. The uterus was explored, and a submucous fibroid was enucleated. A fortnight later a second fibroid tumour, which had become extruded, was found presenting at the external os, and was removed with scissors. She remained well for three months, after which the hæmorrhage recurred, and in June, 1897, she was again admitted. An œdematous fibroid polyp was found

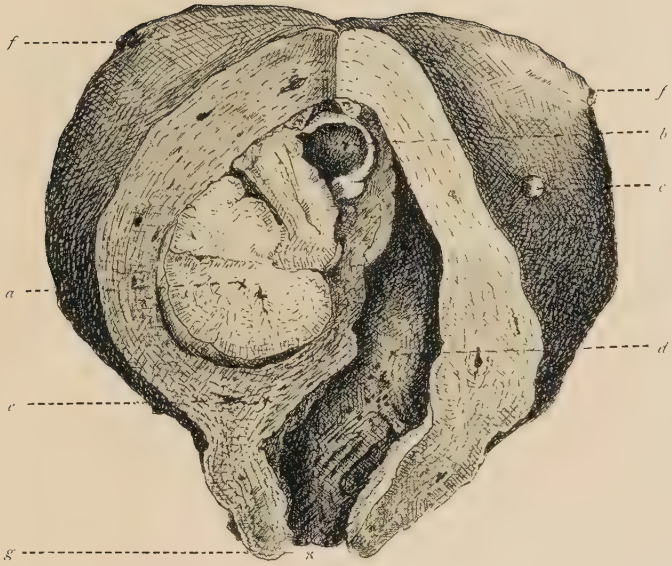
projecting through the cervix, and was removed with scissors. It was the size of a hen's egg. On examination a fortnight later a second larger mass filling up the cervix was removed. This mass measured $4\frac{1}{2} \times 3\frac{1}{2} \times 2$ inches. In February, 1898, the patient again came up to the hospital on account of irregular and excessive hæmorrhage. The uterus was very slightly enlarged, but the cervical canal was patulous, and contained a large number of mucous polypi, which were removed by torsion and the curette. The hæmorrhage continued, and she was readmitted in October, 1898, as she was suffering a good deal of pain, and had lost flesh. As the patient was in service, and had been greatly handicapped in her work for the past two and a half years, she was anxious to have something done which would permanently cure her. After consultation with Dr. Cullingworth, vaginal hysterectomy was performed on October 12th, 1898. The uterus removed was the seat of a fibroid tumour in the anterior wall measuring $1\frac{1}{4} \times \frac{3}{4}$ inch, and a number of mucous polypi were growing from the inner surface of the body. The tumours removed have been very carefully examined by Mr. Shattock, and his opinion is that they are simple fibro-myomata.

Dr. Eden suggested that cases of so-called recurrence of uterine fibroids might be explained in another way, viz. that the uterus was the seat of multiple fibroid growths, which were extruded one after another at longer or shorter intervals. These tumours were innocent, while recurrence was a characteristic of malignant growths; such cases as those described, therefore, required careful investigation.

In reply, Dr. Amand Routh thanked the speakers for their comments, and thought there was no doubt that the sarcoma here was more localised than the more ordinary diffuse sarcoma of the uterus, and might well have originated in a sarcomatous change occurring in a pre-existing fibroid. The rapidity of growth was remarkable, for after emptying the uterus of the sloughing masses it trebled its size in three weeks, and expelled another huge sloughing mass, and again shrank from the level of the umbilicus to just above the pubes. It had done this eight times between May, 1898, and January, 1899.

Report of Committee on Dr. Amand Routh's Specimen related above.

We are of opinion that this specimen is a fibro-myoma, showing extensive round-cell infiltration (inflammatory), with general thrombosis of vessels, and mucoid degenera-



a. Tumour, the lower part of which is firm and stands up out of the surrounding uterine tissue. At the upper part it is degenerating and sloughing, and at *b* there is a distinct cyst with delicate walls; the cyst was filled with mucoid material.

c. Small fibroid (sub-peritoneal).

d. Enlarged uterine cavity into which the tumour *a* projected; *e*, uterine tissue forming the capsule of tumour; *ff*, fallopian tubes.

g. Cervix uteri.

Illustrating Dr. A. ROUTH's specimen of supposed Myxo-sarcoma of the Uterus.

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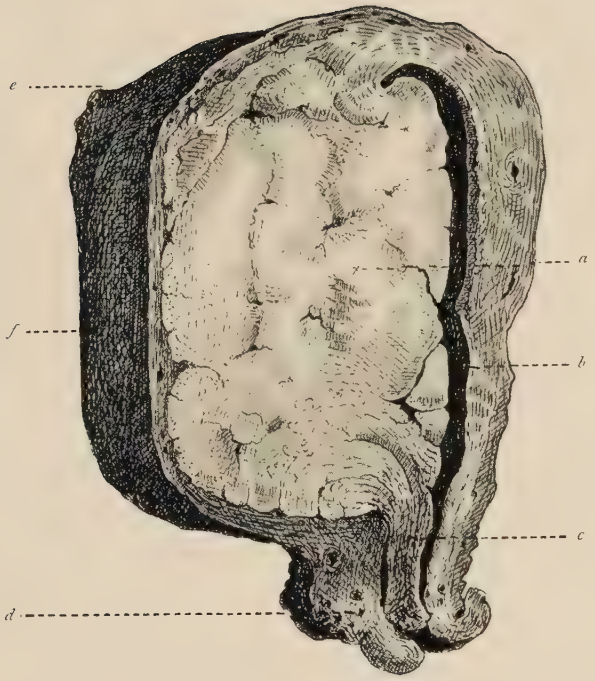

a. Mass of dense white growth growing from posterior wall.
b. Cavity of uterus.
c. Soft fungating portion of growth in canal.
d. Cervix.
e. Fallopian tube.
f. Posterior uterine wall.

Illustrating Dr. W. S. A. GRIFFITH'S specimen of Sarcoma of the Uterus.
(pp. 233, 371.)

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tion in parts. There are no microscopic appearances indicating sarcoma. We suggest that the word "supposed" be prefixed to the title of the case. We recommend the publication of the naked-eye and microscopic illustrations of this specimen.

C. Hubert Roberts.
Amand Routh.
W. S. A. Griffith.
Herbert R. Spencer.
T. W. Eden, *Convener.*

Report of Committee on Dr. Griffith's Specimen of Sarcoma of the Uterus (p. 232).

Since the specimen was presented to the Society, Dr. Griffith reports that the patient has died with metastases in the lungs and thoracic walls. Taking this fact into consideration, as well as the microscopic and naked-eye appearances, the Committee are of opinion that the growth is a sarcoma. The uterus also shows a subperitoneal fibroid at the fundus of the size of a thrush's egg.

C. Hubert Roberts.
Herbert R. Spencer.
W. S. A. Griffith.
Amand Routh.
T. W. Eden, *Convener.*

Report of Committee on Dr. Griffith's Specimen of Sarcoma of the Uterus, No. II (p. 233).

Having examined the microscopic sections of this specimen, we are of opinion that it is a sarcoma, showing marked invasion of the uterine wall. It is worthy of note that the clinical history of this case of undoubted sarcoma closely resembled that of Dr. Routh's case, in

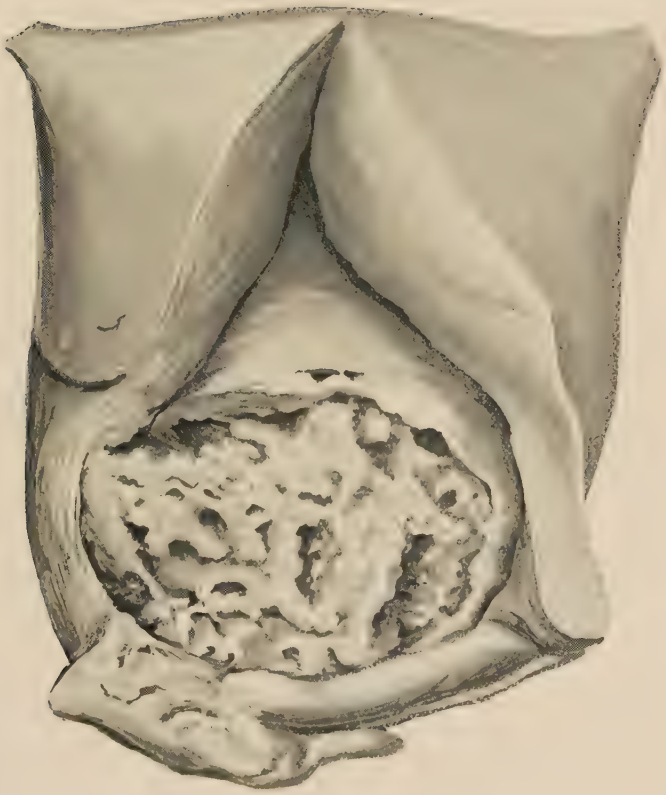
which no evidence of malignancy was found. We recommend the publication of the naked-eye and microscopic illustrations of this specimen.

C. Hubert Roberts.
Amand Routh.
Herbert R. Spencer.
W. S. A. Griffith.
T. W. Eden, *Convener.*

CALCAREOUS FIBROID OF THE CERVIX.

Shown by Walter Tate, M.D.

The specimen was removed by vaginal hysterectomy from a patient aged 58. She had had seven children, and the menopause occurred twelve years ago. One year and eight months before admission to St. Thomas's Hospital she began to have severe abdominal pain, which was sufficiently bad at times to interfere with sleep. At the end of a year a vaginal discharge was noticed, purulent and sometimes blood-stained and offensive. The pain was somewhat relieved when the discharge commenced, but continued up to the time of her admission in August, 1899. There has been some difficulty in micturition, and increased frequency. The cervix was found patulous, and an irregular calcareous tumour could be felt occupying the cervical canal. The tumour could easily be felt as a hard mass through the posterior fornix, and appeared to be as large as a small orange. An attempt was made to enucleate the tumour, but owing to its firm attachment to the cervical wall, and the sharp, craggy surface of the tumour, it was found impossible to do this. The whole uterus was therefore removed *per vaginam*, the operation being somewhat difficult owing to the stony hard character of the tumour, and the smallness of the vagina. After removal the tumour was seen to be a calcareous



Illustrating Dr. WALTER TATE's specimen of Calcareous fibroid of the cervix.

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fibroid with an extensive attachment over the posterior wall of the cervix, and reaching upwards into the lower segment of the body of the uterus. The mucous membrane over the upper third of the tumour was intact, but over the lower two thirds it had sloughed away. The tumour measured 2 inches across and $2\frac{1}{2}$ inches from above down.

Dr. Roberts asked Dr. Tate why he thought the tumour to be a cervical fibroid. Dr. Roberts thought it more probable that the tumour was one of the body of the uterus in the region of the internal os; hence the great difficulty found in attempting enucleation. With regard to the sloughing cavity in the centre of the sarcomatous tumour of the ovary, Dr. Roberts asked if sections had been cut of the tumour proving it sarcomatous. Such cavities in fibroids of the uterus and ovary were not uncommon.

SARCOMA OF OVARY SHOWING NECROSIS OF CENTRAL PORTION LYING IN AN ABSCESS CAVITY CONTAINING OFFENSIVE PUS.

Shown by Walter Tate, M.D.

The specimen was removed by abdominal section from a single woman aged 18. Catamenia began at the age of fourteen, and were regular up till five months ago, when they ceased. A month after the amenorrhœa began she first noticed a lump on the right side of the abdomen. Shortly after this she had pains down the back of the left thigh, and later on down the right thigh. The pains were extremely severe, and the patient was treated for sciatica for a time. The patient had to lie up almost entirely on account of the pain for three months previous to her admission to St. Thomas's Hospital. The tumour had increased somewhat rapidly in size. She had lost a great deal of flesh during the last five months. On admission the abdomen was seen to be symmetrically dis-

tended, and the skin tense and shiny. A solid-feeling tumour could be felt rising out of the pelvis, and reaching up to the epigastrium. The tumour was quite fixed and very tender. The girth at the level of the umbilicus was 31½ inches. The cervix was small and drawn up; the body of the uterus could be felt above the left Poupart's ligament.

Abdominal section was performed on the 31st August, 1899. There were a few recent adhesions of omentum to the tumour, which were very vascular, but with this exception the operation was quite a simple one. She suffered, however, very severely from shock, and after she was put back to bed, the pulse was very rapid and feeble. She got rapidly worse, and died ten hours after the operation. The temperature rose to 105·6° before death.

The tumour removed was somewhat reniform in shape, and was the size of a football. The surface was covered with large veins. A section through the tumour presented a greyish-white glistening surface, mottled here and there owing to hæmorrhagic spots. A cavity was seen in the central portion of the tumour, containing a dirty grey slough due to necrotic change in the tumour. This slough was lying in an abscess cavity containing most offensive pus. The tumour was examined microscopically by Mr. Shattock, who pronounced it to be a round-celled sarcoma. It is difficult to explain how the necrosed portion of the tumour became infected, seeing that there were no adhesions to the intestine.

A SPECIMEN OF FIBRO-ADENOMA REMOVED FROM THE CERVIX.

Shown by Dr. G. F. Blacker.

A. L—, 31 years of age, married six years; no children and no miscarriages; was first seen with Dr.

Martin in October, 1897. She had then been confined to bed for some weeks with vomiting, diarrhœa, and fever. She was thought to be suffering from a typical attack of typhoid fever, although no spots had ever been recognised.

The patient had been seized a day or so before she was seen with acute colicky pain in the abdomen, accompanied by sickness. She complained of a small lump which was thought to be the cervix protruding from the vulva, and some leucorrhœal discharge.

On examination of the abdomen a good deal of tenderness was found to be present below the umbilicus. A small polypoid-like body with an opening in its free surface was projecting from the vulva. The patient said that she had noticed this for some years before her marriage, and that it had never caused her any pain or inconvenience. On vaginal examination the uterus was found to be fixed, and both posterior quarters of the pelvis filled with a hard indurated inflammatory mass.

The case was regarded as one of congenital hypertrophy of the cervix and pelvic peritonitis complicating typhoid fever.

A few days later she was admitted into the Great Northern Hospital, but as she commenced to have very suspicious symptoms she was transferred to a fever hospital, where the case was regarded as one of mild scarlet fever.

The patient was not seen again until five months later, when she was readmitted into the Great Northern Hospital for removal of the polypoid tumour.

On examination under an anæsthetic it at once became clear that this was not an elongated cervix at all, but a pedunculated tumour attached to the anterior lip of the cervix. The external os was situated just below the attachment of the pedicle, while the posterior lip of the cervix appeared quite healthy. The pedicle lay in the vagina with the expanded part of the tumour just outside

the vulva. A sound was found to pass into the small opening on the surface of the tumour for a distance of half an inch. The body of the uterus, which was retroverted, almost fixed, and a little prolapsed, lay to the left of the middle line. The sound passed two and a quarter inches. There was some thickening in the left lateral fornix, while the right lateral fornix was occupied by a small tumour the size of a duck's egg attached to the uterus. On examination through the rectum this swelling felt elastic, although not definitely fluctuating. On the anterior wall of the rectum, on a part of the gut apparently adherent to the tumour, was felt what was taken to be a small puckered scar.

The polypus was removed, and the patient left the hospital at the end of the month.

At this time, March, 1898, the mass on the right side of the uterus was a little smaller and less tender, while the thickening on the left side was as before. During her stay in the ward the temperature had not been above 100°, and was as a rule normal.

In May, 1898, she came up to the out-patient department. Since leaving the hospital she had had an attack of acute rheumatism. She now complained of a discharge from the rectum of yellowish-green matter, which commenced soon after she got home, and had continued on and off ever since. The matter escaped when she passed flatus or went to stool. On various occasions she said that a considerable amount of the discharge had come away from the bowel. She had no pain in the abdomen, and no pain on defæcation. The uterus was found as before, a little prolapsed, retroverted, and almost fixed. The mass to the right of the uterus felt rather smaller, less tender, but still somewhat elastic. There was definite thickening along the right utero-sacral ligament, and still some thickening to the left of the uterus.

In January, 1899, the patient was seen again. She complained of pain in the left side of the abdomen, backache, loss of flesh, and a discharge of matter from

the rectum, accompanied at times by a little blood. She was menstruating, and was not examined. Her periods throughout the whole of her illness remained regular, and the loss was at no time excessive.

In September, 1899, she was readmitted into the hospital. For the last four months the pain in the left side had been continuous and of a throbbing character, and for two months past she had noticed a lump on the left side of the abdomen.

A fortnight before admission she had had an acute attack of abdominal pain accompanied by vomiting. The attack, she said, was similar to one she had had nine months previously, at Christmas, 1898. She complained of a little difficulty in micturition, which had been present for a month.

On abdominal examination a fluctuating tender tumour was found reaching up five inches above the pubes, mainly to the left of the middle line. The tumour was fixed, dull on percussion over an area the size of the palm of the hand, and gave a definite fluid thrill.

On vaginal examination the uterus was found to be retroverted, pushed over to the right and almost to the vulva by the tumour. The latter could be felt through the posterior and left lateral fornices, definitely fluctuating and apparently thin-walled. To the right of the uterus was an indistinct softish mass feeling like intestine.

On abdominal section the tumour was found to be occupying the left half of the pelvis, and extending well above the level of the pelvic brim. It was about the size of a fœtal head, and to a large extent surrounded and covered in by intestine. Very dense and firm adhesions were present, uniting it to the pelvic floor, side wall of the pelvis, small intestines, and rectum. Great difficulty was experienced in dealing with these adhesions, many of which had to be dissected off the wall of the cyst. After the evacuation of some fifteen ounces of clear straw-coloured fluid the tumour, which was a hydrosalpinx, together with the left ovary, was removed. The right

appendages were surrounded by numerous adhesions, but presented no gross disease, and were accordingly left. The patient made an uninterrupted recovery, and when last seen about a week ago was feeling quite well and free from pain.

The specimen shown consists of a small mushroom-shaped polypus composed of a body and stalk. The latter is a flattened band measuring 18 mm. in length by 15 mm. across at its widest part at its attachment to the cervix, and 8 mm. at its attachment to the body of the polypus. The body is an almost circular disc, measuring 23 × 22 mm. in diameter and 14 mm. in depth. Situated somewhat eccentrically is a small depression measuring about 3 mm. across, and extending into the substance of the tumour for a distance of 9 mm.

On naked-eye examination the tumour presents a clear whitish-grey appearance, and has situated in it two small cystic spaces.

Microscopic structure.—The tumour is mainly composed of fibro-muscular tissue. The free surface is covered with a layer of stratified epithelium. It contains large numbers of blood-vessels and cystic spaces, lined with a single layer of well-marked columnar epithelium. The cystic spaces are arranged in a group-like manner in various parts of the body of the tumour, a few of them opening into the small central cavity, which is lined by columnar epithelium. The tumour appears to be a fibro-adenoma, its general structure having a very close resemblance to that of the cervix.

I am indebted to my friend Mr. Lawrence for kindly making the microscopic sections and drawings illustrating the specimen.

Dr. Herman had exhibited to the Society a similar specimen to that shown by Dr. Blacker ('Trans.,' vol. xxii, p. 270) under the name which had then been applied to it of "follicular hypertrophy of the cervix." The name given to the condition by Dr. Blacker had the advantage of being descriptive.

Fig. 1.

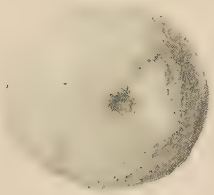

Fig. 2.

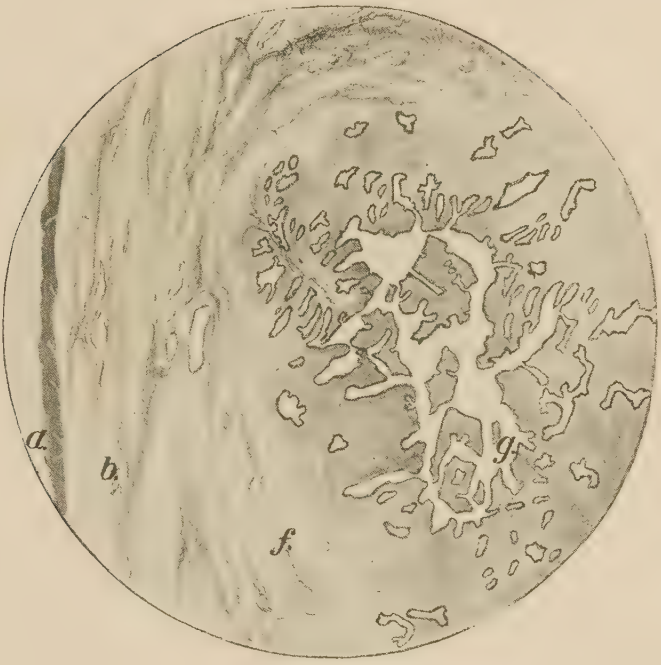

Fig. 3.

a. Squamous epithelium covering surface.
b. Section of blood-vessel.
f. Fibrous and muscular tissue forming stroma.
g. Glands cut across, lined with columnar epithelium.

Illustrating Dr. BLACKER'S specimen of fibro-adenoma.

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DOUBLE HYDROSALPINX WITHOUT SALPINGITIS.

By Alban Doran.

This pair of tubes is as perfect an example as can be obtained of obstruction and dilatation of the Fallopian tubes with no distinct evidence of salpingitis, whilst perimetritic adhesions were found in abundance at the operation. In a communication, "On Closure of the Ostium in Inflammation and Allied Diseases of the Fallopian Tube," read before this Society exactly ten years ago this evening, I applied the term "perimetritic closure of the ostium" to this form of occlusion. Since then Drs. Cullingworth, Langhans, and others have dwelt on obstruction without salpingitis. The former teaches in his 'Clinical Illustrations of Diseases of the Fallopian Tubes' that in hydrosalpinx the tube "becomes occluded at its fimbriated end, usually from a localised peritonitis originating in disease of some part of the pelvis, not unfrequently in purulent inflammation of the tube on the opposite side." These specimens show hydrosalpinx from the first cause noted by Dr. Cullingworth. I will now relate my case and describe the specimen.

E. C—, aged 22, married four years, came last spring under the care of my colleague, Mr. Lockyer, for severe pelvic pains. For the preceding six months she had suffered from pains in the left iliac fossa. The periods came on irregularly at intervals of from four to six weeks, and clots passed freely for two or three days. On careful questioning Mr. Lockyer found that she had aborted at the third month four months previously, and had also aborted at the second month over two years earlier; these were her only pregnancies. Considerable vaginal discharge had been noted for three weeks; the patient also

had had sore throat, apparently from a chill. There was no evidence of syphilis.

On May 12th the patient was admitted into my wards. The uterus was freely moveable and anteverted. There was a tender moveable mass in the right fornix, and a still more tender body quite fixed in the left. The temperature was normal. On May 18th I operated, placing the patient in the Trendelenburg position, so that I gained at once, when the abdominal incision was made, a perfect view of two greatly dilated tubes. The right tube was the larger; it was held down with moderate firmness by adhesions. I separated them and removed the tube with the ovary. The left tube was firmly bound down to the rectum and adjacent peritoneum of Douglas's pouch, the ovary being embedded in perimetritic adhesions, apparently caused by old oöphoritis. I removed the tube and most of the ovary, but purposely left a little ovarian tissue. Recovery was uneventful. On June 9th the patient felt as though a period was coming on; then she experienced slight pain in the left side of the pelvis without any rise of pulse or temperature. There was no tenderness or deposit in the left fornix, where the portion of the ovary was left behind.

The right tube is shown dilated and sharply bent on itself; its walls have been laid open, and it is seen closely adherent to the ovary, though the mesosalpinx is not effaced. It is easy to understand how, had the ovary been flattened and atrophied by long pressure, the hydrosalpinx would have assumed the appearance of a tubo-ovarian cyst.

The left tube is mounted without the ovary. It is also dilated and sharply bent in on itself; its mesosalpinx is almost intact. The great length of the ovarian fimbria is notable in this case; it formed a stout cord nearly two inches long.

The slides show sections through the wall of the right tube, stained in hæmatoxylin and eosin. In the middle coat are seen the normal plain muscle cells mixed with

white fibre. There is no small-celled infiltration or other indication of inflammation either in the substance of the middle coat, or under the serous coat, or towards the mucous membrane. The submucous layer has been absorbed, presumably by pressure.

The mucous membrane is lined with perfect epithelium which has lost its cilia and become cubical, with nuclei disproportionately large, as is usual in hydrosalpinx.* The plicæ are completely flattened against the surface of the inner wall, and their secondary branches effaced, whilst their epithelium remains intact. These plicæ are long, and being flattened irregularly against the inner side of the tube give rise to an appearance of long slit-like cyst-like spaces lined with cubical epithelium.

The serous coat, as usual, shows badly on section; it was probably damaged by old inflammation. It appears to consist of a thin layer of fibre, perhaps old lymph mixed with broken-down tissue, and has taken the hæmatoxylin stain like the epithelium of the mucosa, the middle coat having taken eosin.

This specimen is now in the museum of the Royal College of Surgeons, Path. Series, No. 4564 F. I exhibit with it two specimens of obstructed tube showing perimetritic (4564 A) and salpingitic (4564 B) obstruction of the tube in their earlier stages. A third (4564 E) shows how the fimbriæ retract mechanically. In the specimen now exhibited the flattening of the plicæ, as shown by the microscope, is worthy of notice.

As this patient was very young I left some ovarian tissue. The uterus remains entire, and under such circumstances the catamenia may continue. I cannot say that I feel sure that no artificial menopause will ensue. Once we believed that total removal of the ovaries cured a myoma; now some of us think that if the ovaries be left when the uterus is amputated above the cervix menstruation will continue, much to the patient's comfort: but already Abel finds that the menopause comes on

* See Allbutt and Playfair's 'System of Gynæcology,' fig. 197, p. 787.

within three years after such a hysterectomy. At least, however, it appears to come on slowly.

I felt obliged to remove the tubes, for a young patient, married and in very poor circumstances, is not likely to get better; the usual course of such a case is ultimate suppuration with close adhesions of the tube to the rectum, small intestine, and appendix. These complications involve inability to work, invalidism, and at length a difficult and dangerous operation. I thought for a moment of salpingostomy, but I strongly suspected specific mischief in this case, and to make an artificial opening into a tube possibly containing gonococci would be to court failure of the operation, and to put the patient to not inconsiderable risk.

Dr. Amand Routh referred to the method of treating some tubal swellings by incision and drainage *per vaginam*, and mentioned a case of supposed double pyosalpinx which, with Dr. Tate's assistance, he had incised and drained in this manner, and pregnancy, followed by abortion, subsequently occurred. This occurred many years ago, and the patient was now quite well.

Dr. Peter Horrocks related the details of a case of salpingostomy where the tube had been laid open and emptied as far as possible of tubercle, with which it was filled. The tubes were both so fixed in the pelvis that it was deemed wiser to leave them. The patient was only nineteen or twenty years of age, and was operated on last August shortly after her marriage. The sinus which was left gradually came to discharge what appeared to be pure mucus, but about three weeks ago, *i. e.* some three months after the operation, the discharge ceased and the sinus closed, the patient having been in remarkably good health and spirits ever since the operation. She was under the care of Dr. Roberts, of Southgate, and Mr. Targett assisted at the operation.

The President, in reply to Drs. Amand Routh and Horrocks, said that the drainage of a pyosalpinx through the vagina and the opening of an obstructed tube to let out tubercular matter were not what was understood by salpingostomy according to Polk and Skutsch. That term meant the making of an artificial ostium in a tube all but normal except that it was obstructed.

Fig. 1

Fig. 2

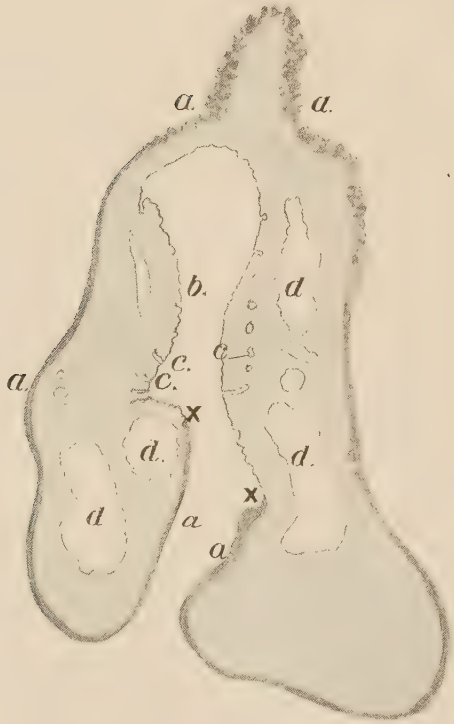

Fig. 3.

Illustrating Dr. HERBERT SPENCER's case of peculiar mucous polypus of the cervix.

Engraved and Printed by Bale & Danielsson, Ltd.

DESCRIPTION OF PLATE IX.

Illustrating Dr. Herbert Spencer's specimen of a Peculiar Cervical Mucous Polypus.

FIG. 1.—The polypus, natural size. The upper extremity is the point of attachment.

FIG. 2.—The same in section, showing the canal.

FIG. 3.—Microscopic section, enlarged about five diameters (semi-diagrammatic).

a. Squamous epithelium, papillary at upper part, extending up canal to ×.
b. Columnar epithelium.
c. Glands lined with columnar epithelium.
d. Cysts (distended glands) lined with cubical or flat epithelium.

A PECULIAR CERVICAL MUCOUS POLYPUS.

Shown by Herbert R. Spencer, M.D.

The mucous polypus shown in the illustration (Plate IX) was removed from the cervix of a patient aged 46, who had had five children. It grew from the anterior and left wall of the cervical canal, about half an inch below the internal os. It gave rise to no symptoms, and menstruation was regular. The peculiarity of the polypus is its resemblance to a cervix, having an "external os" opening into a "canal" lined in its upper part with columnar epithelium; opening into the upper part of the canal are tubular glands; some of these have formed cysts lined with cubical or flattened epithelium. Squamous epithelium covers the surface of the polypus and extends up the canal for about one third of its length. The squamous epithelium at the upper (attached) part of the polypus is raised up in papillæ. The substance of the polypus is made up of young connective tissue and fibrous tissue, and contains a few vessels. It is not easy to understand the origin of this tumour. The idea that the canal might be the result of the bursting of a cyst seems to be negatived by the smoothness of the "os," by the extension of the squamous epithelium for some distance up the canal, and by the fact that glands open into the canal.

ADENOMA OF THE MEATUS URINARIUS EXTERNUS.

Shown by Herbert R. Spencer, M.D.

The growth was removed from a virgin aged 68, with Paquelin's cautery, from the lower lip of the meatus

urinarius externus, where it was attached over an area of about the size of a pea. It was very vascular, and of the consistence of a urethral "caruncle." A bloody discharge had existed for five months, for which she had been examined several times by a gynæcologist, who had probably pushed the polypus into the vagina so that it eluded his observation. It was discovered by Dr. Bolton, of Cheniston Gardens, with whom I saw the patient. It is now six months since the tumour was removed, and Dr. Bolton writes to me that the patient is quite well.

Microscopically the tumour is made up of tubular glands lined with columnar epithelium, with a very small amount of connective tissue between them. There is a thin layer of fibrous tissue on the surface of the tumour. It appears, therefore, to be an adenoma. (See Plate X, figs. 1 and 2.)

The PRESIDENT was interested to learn that adenoma of the urethra might spring from the edge of the meatus, just like a caruncle. This was lucky for the patient. Sarcoma of the urethra usually arose inside the urethra, and pushed itself downwards, the meatus appearing like a ring on its surface. Resection of the whole urethra and the making of an artificial supra-pubic urethra had been performed in cases of this disease; in adenoma, for reasons made plain this evening, far less radical measures were sufficient.

A CASE OF TUBAL PREGNANCY (MOLAR) COMPLICATED BY SUPPURATING OVARIAN CYST OF THE OPPOSITE SIDE.

Shown by JOHN PHILLIPS, M.A., M.D.Cantab., F.R.C.P.

MRS. O—, aged 40, married, with ten children, the labours all natural, was first seen by Dr. Curtis, of Orpington, on August 5th, 1898, when she consulted him for pain in the left iliac fossa. On inquiry it was found that she had not menstruated since the May previous (less than three months' interval). A fixed lump was found in

DESCRIPTION OF PLATE X.

Illustrating Dr. Herbert Spencer's case of Adenoma of the Meatus Urinarius Externus.

Fig. 1.—The growth, natural size.

Fig. 2.—Drawing of a microscopic section of the growth seen under a low power.

The free surface is upwards, and is composed of close-set fibrous and connective tissue. The deeper portion of the tumour is seen to be made up of glandular structures lined with columnar epithelium. There is a small amount of loose connective tissue between the glandular structures.

In the preparation of the section the epithelium is broken and has fallen out in places.

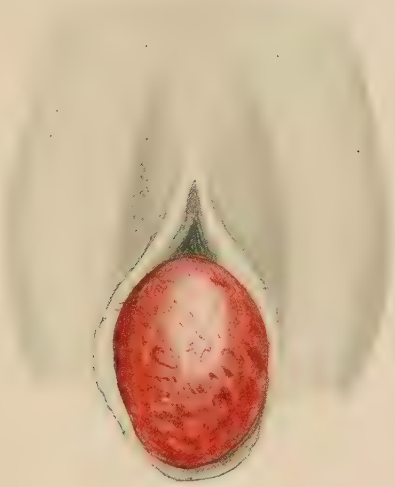

Fig. 1.

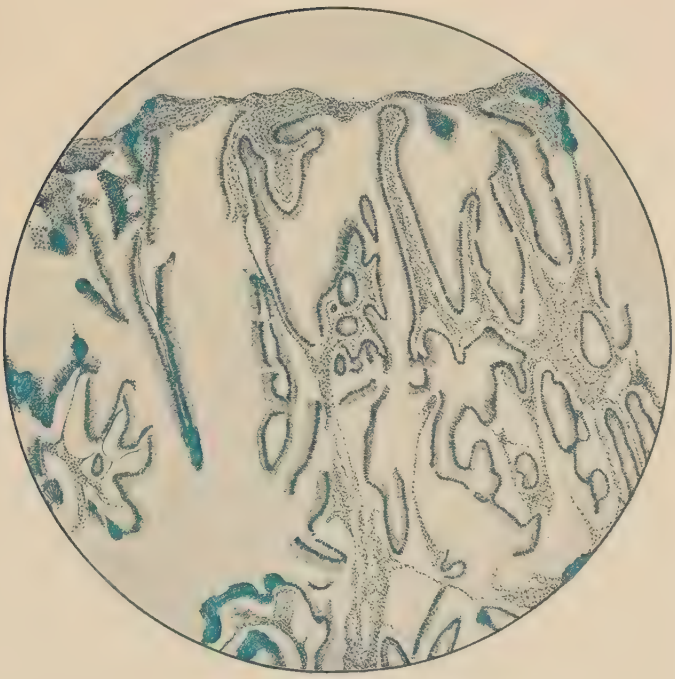

Fig. 2.

Illustrating Dr. HERBERT SPENCER'S case of Adenoma of the Meatus urinarius externus.

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the left and posterior quarter of the pelvis. She had a very sudden attack of pain and collapse on August 26th, with vaginal hæmorrhage; this latter sign has continued more or less since. I first saw her on September 26th, 1898; the patient was an anæmic, anxious, and somewhat emaciated woman; the legs moved with difficulty, but were quite comfortable in the extended position. The temperature was 100° F., and the pulse 108 per minute.

Per hypogastrium there is a bilobed swelling occupying the whole of the lower abdomen; the right lobe reaches higher up and is more protuberant than the left. The notch between the two swellings is four fingers' breadth below the navel; the lump on the right side is dull on percussion, and is distinctly fluctuant; the left is more elastic, and there is intestine in front of it. The whole mass is absolutely fixed.

Per vaginam a free hæmorrhagic discharge is going on, bright in colour, but containing no clots or shreds. The uterus is pushed forward behind the symphysis pubis, and fixed by a softish, elastic, smooth, impacted swelling occupying the posterior and left two thirds of the pelvis. Higher up and to the right the base of a smaller swelling can be felt, also fixed and apparently fluctuating. The cervix is softened, and admits the index finger up to the internal os uteri. The sound passes easily directly forwards three and a half inches; the fundus uteri can be detected immediately behind and slightly above the symphysis pubis.

She was seen again on October 17th, 1898, when a note was made that the patient is losing ground and has emaciated; the temperature varies between 99° and 100° Fahr., and the pulse always over 110 per minute. The local conditions apparently unchanged, with the exception that the growth on the right side reaches to a higher level than before. The abdomen was opened in the median line; no ascites present. On passing the hand into the pelvic cavity a large semi-elastic swelling was

felt occupying the left half of the pelvis ; it was generally adherent to the surrounding structures, the pelvic wall, and to the tumour on the right side. The adhesions were broken down and the mass brought up to the wound. Deep down on the pelvic floor the finger passed through an orifice in the sac wall, and blood-clot and putrid fluid blood escaped. The lump was found to be an extra-uterine sac. The head and thorax of a fœtus about three inches long, somewhat flattened out, and purplish in colour, was found projecting through the wall. The pedicle was ligatured and the mass cut away. The right-sided tumour contained flocculent pus. It was a right ovarian cyst undergoing suppurative change ; the pus was putrid-smelling. The pedicle was ligatured and the mass removed. The peritoneal cavity was washed out with three quarts of sterilised water, many old clots being removed in this way. A glass drain-tube was passed down into the left side of the pelvis, and the abdominal cavity closed by three layers of sutures.

The patient made an easy recovery, after three days of considerable anxiety from collapse. She subsequently had severe epistaxis at a time when menstruation should have appeared ; she is now (a year afterwards) quite strong and well.

Description of parts removed.—The tumour consists of a gestation in the left Fallopian tube. The tube is enormously distended and presents an oval swelling, flattened in front and markedly convex behind. It measures 12 inches in its longitudinal circumference, $10\frac{3}{4}$ inches in the transverse, and $9\frac{1}{4}$ inches in the vertical circumference. Both anteriorly and posteriorly the peritoneal surface of the tube is covered with layers of organised lymph. The opening at the uterine end of the tube is to be made out, and a bristle has been inserted into it ; but the abdominal ostium is completely occluded, and a few slight traces of the fimbriæ can be seen spreading over the closed opening. Just at the centre of the posterior surface the tube has ruptured through

the peritoneum, and through the ragged opening the head, thorax, and right arm of the fœtus are protruding.

The walls of the tube itself are stretched and very thin; the fœtus is apparently of about three months' development; molar degenerated tissue is seen lining the cavity.

The points in this case worthy of mention are (1) the constant hæmorrhage—a sign Dr. Cullingworth has insisted on as being present in nearly all these cases; (2) the position of the fœtus—partly within and partly without the sac.

When rupture took place, and why suppuration occurred in the ovarian cyst, and putrid change in the fœtal sac, are facts for discussion.

The PRESIDENT held that bleeding from an unruptured tube bearing a hæmorrhagic mole must be considered as a third form of pelvic hæmorrhage. Pelvic hæmatocele, intra-peritoneal, was occasionally due to other causes than tubal gestation, and was not invariably fatal. Taylor of Birmingham was apparently correct in insisting that broad ligament hæmatoma was due to tubal gestation only in the minority of cases. The President thought that a large tubal mole was a source of danger, and should be removed.

Dr. HERMAN said that Dr. Phillips's specimen was important as throwing light on the possible results of tubal mole and abortion. In many cases in which tubal moles had been removed they were not adherent, were causing little trouble, and seemed very harmless things; so that the question arose whether it was good practice to advise operation when this condition was suspected. Dr. Phillips's specimen showed that a tubal mole was not always a harmless thing.

Dr. GALABIN said that he had met with a considerable number of cases diagnosed with reasonable certainty as extra-uterine fœtations in which a lump of notable size had gradually disappeared without any operation. In other cases, where operations had been performed, a large lump had sometimes been found to consist almost entirely of clot with only minute trace of chorionic villi and no discoverable embryo. In deciding the question of operation when a case was quiescent, and the date of probable rupture or death of the embryo had passed some time, he was accustomed to go chiefly by the development which the ovum was supposed to have reached. If this was less than two months he thought that there was a reasonable prospect

that the lump would become absorbed. On the other hand, if there were an embryo as large as that in the case shown, suppuration or septic change would most likely occur.

Dr. Peter Horrocks thought that in this particular case, where there was fever and wasting, it was quite the right thing to operate. But he did not think all cases of tubal moles or of hæmatoceles due to tubal pregnancy should be operated upon. He thought there were probably a great many cases that got quite well without operation, the clot getting gradually absorbed, and the whole mass dwindling down to something almost imperceptible. Naturally the majority of these cases were never actually demonstrated, owing to the difficulties of diagnosis, and to the very fact of recovery without operation. He mentioned a case recently seen by him with Dr. Mesquita where there was a mass in the pelvis, consisting most probably of a left tubal mole, with possibly some blood-clot in the peritoneal cavity. He had counselled no operation, and they had the advantage of a consultation with Dr. Herman, who advised abdominal section. The lady declined, however, and she was then seen by Dr. Galabin, who agreed that it was best to let it alone, particularly as the uterine hæmorrhage had ceased and the mass was a little smaller. He mentioned a similar case seen by him five weeks ago, and again the previous evening with Dr. Stokes, of Eltham Road. In this case he had advised no operation, and the lady was so far progressing satisfactorily. In both these cases there was no pyrexia, and whatever pain there had been had ceased, so that obviously the mass was not septic, and the ovum was dead, as it did not grow. Moreover in any such case, if the mass did ultimately get septic, it could be easily dealt with.

ACUTE PERITONITIS (WITHOUT DISCOVERED CAUSE) COMPLICATING PREGNANCY AND LABOUR.

By John Phillips, M.A., M.D.Cantab., F.R.C.P.,
OBSTETRIC PHYSICIAN TO KING'S COLLEGE HOSPITAL, AND LECTURER ON PRACTICAL OBSTETRICS IN KING'S COLLEGE.

(Received November 22nd, 1899.)

(*Abstract.*)

The author relates the case of a woman nearly seven months pregnant and in good health, who fell over a chair-back on her left side. Much pain and persistent vomiting followed. She was found in a very serious condition, her abdomen distended, pulse 120, temp. 103° F., and respirations 48. Labour came on, but no true pains could be distinguished, and terminated very quickly. Her condition became rapidly worse, and she was admitted into King's College Hospital. After consultation Mr. Peyton Beale opened the abdomen, and found general peritonitis, but no apparent cause. The patient died in a few hours. Full details of the post-mortem examination are given. Short histories of five other cases are related—Matthews Duncan (two), Simpson, Romiti, and Gow.

The author thinks that three important points for discussion arise out of the case, viz. (1) the cause of the infection; (2) the question of operative interference; (3) the share the blow took in producing the illness.

The patient, E. D—, aged 32, with one child, became pregnant for the second time during lactation, and was therefore uncertain as to her period of pregnancy; she

could not, however, have reached the seventh month. On February 6th, 1899, she had a fall and struck herself in the left side of the abdomen against a chair-back. Violent sickness followed, and severe pain has been present since. Up to the time of the accident she was perfectly well, and had suffered from no kind of vaginal discharge. The pain became so severe on February 9th that Dr. Drummond Robinson, my colleague at the British Lying-in Hospital, was sent for to see her. He found her in great pain, "which started in the left iliac fossa, and extended upwards along the left side of the chest to the corresponding side of the head, also downwards along the left thigh. Temperature was 103° F., and the pulse 120 per minute. There were also definite uterine contractions, and the os uteri internum easily admitted two fingers. Tenderness was complained of over a very localised area in the left iliac fossa, but seemed to be slight. But for the pulse and temperature I should have looked on the case as one of hysteria; there was absolutely no evidence of peritonitis." (Dr. Drummond Robinson's note.)

The patient was admitted under my care into the British Lying-in Hospital on the evening of February 9th. Tincture of opium was given, and hot fomentations applied locally.

February 10th, at 2 p.m., a living female fœtus was expelled in the membranes, apparently without pains; it survived a few hours. Twenty minutes after the labour the patient's pulse was 140, the respirations 30 per minute, and owing to abdominal distension the uterus could not be grasped. The placenta was expelled naturally, and there was no hæmorrhage. She then began to vomit, a symptom which continued to the end of her life.

At 8 p.m. I found the patient lying with the knees drawn up, the respirations rapid, pulse 120 and of good quality, the tongue and lips dry. The abdomen was distended, tumid, and very tender in the lower hypogas-

trium. On deep pressure the fundus uteri could be felt two fingers' breadth below the navel.

Vaginal examination showed nothing abnormal, the uterus being mobile, and the lochia bright red and free. February 11th, 1899, 2 a.m.—Pulse 132, temp. 100·2° F., resp. 48. 6 a.m.—Pulse 144, temp. 98·8°, resp. 46. Urine drawn off by catheter and found non-albuminous.

The distension increased in spite of enemata, the vomiting became dark brown in colour, and peculiar intermittent jerkings of the hands and face were noticed, and some œdema of the skin in the left iliac fossa, but no bruising. She was admitted to King's College Hospital, and was seen in consultation with Mr. Peyton Beale; it was decided to perform laparotomy, and she was transferred to the surgical ward.

Operation.—At 8.30 p.m. Mr. Beale opened the abdomen by an oblique incision to the left of the middle line, extending from the symphysis to nearly the level of the umbilicus. The distended intestines were seen on opening the peritoneal cavity. The roof of the pelvis was covered with a thick, tenacious, straw-coloured membrane, distributed in patches. In both iliac fossæ a few ounces of semi-purulent fluid were found, and on removing this the inflammatory condition seemed to be at its latest stage in the left iliac fossa, and became more acute as it passed across the right lower hypogastrium until the right Fallopian tube was reached. This was not thickened, but was of a purple-red colour, smooth and glistening; at its abdominal ostium, and covering the fimbriæ, was a large flake of lymph. On removing this the ostium was found to be patent. The uterus was purple in colour, and its surface covered with a few adherent flakes of lymph; there was a small fibroid, about the size of a marble, on its anterior wall. On the left side the Fallopian tube was less congested and quite healthy; the right and left ovaries were normal but somewhat swollen, and covered with patches of bright vessels.

On pulling the intestines away from the right iliac fossa the appendix was apparently quite healthy; the ascending and descending colon were full of soft fæces and quite normal. The peritoneal cavity was washed out with normal saline solution, and a quart allowed to remain. The abdomen was then closed and gauze drainage applied. Much collapse followed, and the patient died three hours later.

Post-mortem examination showed the thoracic organs normal, except that the lower parts of both pleuræ were covered with soft and purulent lymph; no pneumonia was present. General peritonitis was present, with purulent lymph gluing the intestines together; this was less marked beneath the wound, and extremely prominent over the ovaries and tubes. No rupture of stomach or intestines was discovered. There was a great deal of bruising and ecchymosis deep down in the tissues of the cervix, but no sloughing; no purulent foci were found in the uterus, nor was its wall perforated or damaged. There appeared to be no evidence of infection from the uterus, and the cause of the disease was probably one arising *ante partum*. Unfortunately no bacteriological examination was carried out.

After much search among home and foreign literature I have only been successful in finding five similar cases, and before drawing conclusions I will give brief abstracts of each of them.

Case 1. Matthews Duncan ('Mechanism of Natural and Morbid Parturition,' p. 129).—A single woman, a primigravida, aged 34, and at the end of her sixth month of pregnancy, was suspected of using drugs to produce abortion; no positive evidence, however, could be adduced on the subject.

She was seized with great abdominal pain and tenderness, and forty-eight hours later was seen in consultation. Four days after (*i. e.* six days from the presumed commencement of the disease) she miscarried, labour

being very rapid. She died two and a half days after delivery.

A *post-mortem* examination showed general peritonitis, "the abdomen containing a large quantity of fetid purulent fluid."

Case 2 (ibid., p. 132).—Matthews Duncan relates another case in which post-partum Cæsarean section was performed; the woman died of "enteritis," but the presence of lymph on the peritoneal surface of the uterus rather points to peritonitis. Details are insufficient, however, to draw any definite conclusions.

Case 3. Simpson ('Edinburgh Med. Journ.,' 1862, May, p. 1083).—The patient had arrived at "full term of utero-gestation," and beyond having had on one or two occasions a slight loss of blood was in good health until the onset of the disease. A shivering attack was followed by pain in the abdomen whenever she moved; pains (apparently of labour) continued for some hours, and when her medical attendant arrived he found no advance in labour; the breech was presenting, and nothing else abnormal was noticed. He left her, and in the night during his absence the patient died suddenly.

On laying open the abdominal cavity there was found much serous fluid with fibrinous flocculi floating in it. "The intestines were loosely gummed together, and were covered at parts with inflammatory deposits." Similar patches were scattered over the ovaries and Fallopian tubes. "No local cause for the peritonitis could anywhere be discovered; nor was it possible to recognise any particular spot as that in which it had probably commenced."

Case 4. Romiti ('L'Osservatore, Gazz. delle cliniche,' 1877, May, quoted in 'Centralblatt für Gynäk.,' 1877, Bd. i, S. 243).—A healthy primigravida aged 22, and near term, was struck in the abdomen. Signs of peritonitis

appeared, and a few hours later labour pains set in. Labour was quick and normal. Death followed in eighteen hours.

At the post-mortem examination bloody exudation (over one litre) was found in the pelvic cavity, and in the left ovary a ruptured follicle (? size) ; the cavity was filled with a fresh coagulum. The whole ovary was enlarged in consequence of several small hæmorrhages traversing its substance. The bleeding appeared to be the cause of the peritonitis.

Case 5. Gow ("Peritonitis ante Partum," 'Edinburgh Medical Journ.,' 1888, January, p. 600).—The patient, aged 32, a multipara, about a month before term had an accident, her right leg slipping through a hole in a rotten floor ; she had not felt well since. When at term she was suddenly seized with severe abdominal pain and sickness.

When seen by Dr. Gow the conditions were as follows :—"She complained of frequent sharp abdominal pains, not resembling labour pains in character. Her lips and cheeks were livid, and beads of sweat stood on her brow. Her tongue was slightly moist. There was frequent retching. The hands and feet were cold and clammy, and the pulse was barely perceptible at the wrist, and could not be counted. The respirations were rapid, being about forty to the minute." Taking into consideration that the cervix was dilated to the size of a five-shilling piece, and the desperate state of the patient, version was attempted. Just as the knee was reached, the patient ceased to breathe. Post-mortem Cæsarean section was performed in the hope of saving the child, but unfortunately without result.

"On opening the peritoneal cavity a large quantity of semi-opaque peritoneal fluid containing flakes of lymph escaped." The uterus was covered with flaky lymph, but no definite cause could be ascertained for the peritonitis. The author remarks that "the incompleteness of

the post-mortem examination renders it impossible absolutely to eliminate various common causes of peritonitis, such as perforation of the vermiform appendix; but no ground of suspicion of any such cause was discovered."

Six cases form a very small number on which to base any conclusions; but we obviously have here a definite complication of pregnancy, always fatal in its results, and unmentioned in any of the treatises on midwifery usually consulted.

Among the many points of interest in this perplexing and very rare condition there seem to me to be three which stand out very conspicuously for consideration:

1. The cause of the infection.
2. The question of operative interference.
3. The share the blow took in producing the illness.

At the consultation immediately before operation various possibilities suggested themselves to us, and the one which seemed most probable was that the appendix was at fault, and the pain reflected to the opposite side: I believe this is not unknown in surgical practice.

Ruptured pyosalpinx was discussed, but negatived, and the operation was performed in the hope of finding some infecting focus which could be removed; in the absence of such the case must be looked upon as one of "idiopathic" peritonitis.

The question of serum-therapy was also discussed, but the patient's condition seemed too desperate to wait for the results of such treatment.

I think the course taken of operating was the right one; were I, however, to meet with a similar case again I should be inclined to recommend interference even earlier.

Although in three of the cases detailed the onset of the disease was preceded by traumatism, I believe the blow in my case was a coincidence; this is of much importance from a medico-legal standpoint, as the patient's husband threatened to sue her employers for damages,

and it was only my opinion expressed after the post-mortem examination that stayed proceedings.

I believe cases such as those above related to be of exceeding rarity, and I have therefore ventured to give full details, in the hope of eliciting the opinions of others, and by so doing to guide practitioners into the proper course of action under similar circumstances.

Dr. INGLIS PARSONS did not believe that inflammation ever occurred without a cause. He suggested that the fall might have caused bruising of intestine, which in its damaged condition allowed bacteria to pass through into the peritoneum. There was also the question of cold and chill. The general physicians allowed that pleurisy might be caused in this way, then why not peritonitis? He entirely agreed with opening the abdomen as the only chance of saving the patient.

Dr. AMAND ROUTH alluded to the statements of Mr. Treves in his 'Lettsomian Lectures on Peritonitis,' where he has conclusively shown that the *Bacterium coli commune*, a perfectly harmless and probably useful germ when found in a normal bowel, was capable of becoming extremely virulent and of infecting the peritoneum, causing fatal peritonitis after the occurrence of enteritis, or even after such bruising of the intestines as may take place in an ordinary abdominal operation. He thought it not unlikely that this was the cause of the peritonitis here.

Dr. GALABIN had lately met with a case of general peritonitis, not associated with pregnancy, where the causation could not certainly be determined. The patient was a girl aged 17, who was admitted into Guy's Hospital exceedingly ill, and with a greatly distended abdomen. Abdominal section was performed, and a large quantity of sero-purulent fluid was evacuated. The intestines were bound down posteriorly, but the effusion extended from the diaphragm to the pouch of Douglas, uterus and round ligaments being bathed in it anteriorly and posteriorly, so that it was astonishing that the patient could have lived thus for a day. There was no sign of tubercle, and no positive evidence or history of gonorrhœa, though the patient had been exposed to the chance of it. The tubes were not distended, but the fimbriated extremities appeared like minute star-fishes in the midst of the peritoneal coating of lymph. As a few drops of pus could be squeezed from the right tube, he removed that tube. Although the inflammation might have only spread to the tube from the peritoneum, he thought it most likely that both in this case and Dr. Phillips's a tube was

the primary source of inflammation, notwithstanding that the peritonitis was general, and not limited as usual. The patient improved, but unfortunately died from an anæsthetic three weeks later, when it was intended to open drainage from the vagina; and no post-mortem was made.

Dr. Peter Horrocks thought the word "idiopathic" had practically dropped out of medical literature for years. It used to be applied to those cases for which no known cause could be found, and probably that was all that Dr. Phillips meant. Formerly, no doubt, it was thought that inflammation could come on by itself without a cause, and hence the term. But for a long time it had been accepted that no form of inflammation could occur without a cause, and hence the use of the word idiopathic had been abandoned. He remembered a case at Guy's some ten years ago where the physician eliminated every known cause in a case of peritonitis in a girl fifteen years of age. He said it was what would have formerly been called "idiopathic peritonitis." She was tapped, and a thin sanguineous fluid was withdrawn. Later he had opened the abdomen, and found general tubercular peritonitis and caseation in the ovary and tube.

Obviously in Dr. Phillips's case the fact that no bacteriological examination was made left it in doubt as to the real pathology. Still, in all probability it was some form of microbe, possibly the *Bacillus coli*, as had been suggested by Dr. Inglis Parsons and Dr. Routh, possibly the streptococcus, or some other microbe. And as to the part played by the injury, might it not have set free some microbes that were already there, possibly encysted, or at all events not causing active and general inflammation until thus set free by the fall? He thought the question of operation must be decided on the merits of each case.

Dr. Robert Wise inquired about the condition of the spleen in Dr. Phillips's case.

Dr. Drummond Robinson had seen the patient soon after the onset of her illness. He had made careful inquiry about the injury to the abdomen, and found that several days had elapsed between the accident and the first onset of the pain. He was therefore doubtful whether the injury had anything to do with the peritonitis. When first seen the patient had a high temperature; she complained of pain, which started in the left iliac fossa, and radiated upwards to the left arm and left side of the face, and downwards to the left leg. The pain was more like that of hysteria than anything else. The woman was, however, evidently seriously ill, but there was nothing suggesting peritonitis at this stage. There was tenderness over a very small area of the left iliac fossa.

The President believed that direct infection of the peritoneum through the ostium of the Fallopian tube, without any

previous infective phenomena in the vagina, uterus, or tube, was almost if not entirely unknown. Puerperal infection did not, it appeared, reach the peritoneum through the tube. Pus containing the gonococcus had been observed issuing from the ostium, but that implied specific salpingitis; then a purely secondary peritonitis occurred, severe, but tending to become speedily localised by adhesions.

Dr. JOHN PHILLIPS replied.

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